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THE CANADIAN DENTAL HYGIENIST

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SPRING 1973 Volume 7, No. 1

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PRESIDENT'S MESSAGE

Marjorie Weich

CHANGING TO MEET THE NEEDS

Society is now beginning to see good dental health as an inherent right to which everyone should have access regardless of race, age, income or residence. In itself, such a doctrine is welcome. The dilemma facing the dental profession today is that the demands for dental services have progressed more rapidly than the resources for providing them.

The resulting dental manpower crisis has been discussed at all levels – local, provincial and national – and it has become very apparent that the most effective means for providing adequate dental services is through better utilization of auxiliary personnel. The dental hygienist has proven her value as a responsible member of the dental health team and should welcome this opportunity to pledge her continuing service.

We are living in a rapidly changing world and if we are to survive we must continually be "changing to meet the needs". That which was acceptable in the past will no longer suffice the needs of today's philosophy of the practice of dentistry.

All aspects of dental hygiene education, practice and licensure are being reviewed and revised. It would appear that a fuller understanding and recognition by all dental hygienists of the changes taking place be a main priority in planning for the future. The dental hygienist who can draw upon a rational approach and fund of learning during this transitional period can make a tremendous contribution to society while gaining new importance for the profession.

Now is the time to become actively involved. The philosophers tell us that "Knowledge comes of doing: never to act is never to know". The destiny of our future is being determined and we can either survive gloriously or perish miserably.

GUEST EDITORIAL

The Canadian Dental Hygienists' Association celebrates its 10th anniversary this year. In a decade we have come a long way. In 1963 when the association was initiated, the membership was less than 100 and represented dental hygienists from four provincial associations. By 1968 the total had increased to 338. Membership is now 830 and constituent associations have been established in eight provinces. The continuing growth of our association can be attributed to interested hygienists who recognize the necessity for and potential of having a strong national organization, and to conscientious efforts of past and present executive, delegates, committee chairmen and committee members.

This year additional significant achievements have been made. The Executive has initiated the publication of CDHA NEWS as a supplement to the Journal. A handbook outlining CDHA structure, function, standing rules and policies was completed and made available to the Board of Directors and committee members. Liaisons on a national and international basis have been strengthened and new ones established. The Executive is continuing to seek involvement in matters relating to education, licensure and practice of dental hygienists, and to explore and identify areas requiring further study and development.

Significant changes have also taken place in dental hygiene practice. The need for providing more complete preventive clinical services along with changes in the dental health delivery system and the roles of dental auxiliaries, now demand that the dental hygienist possess knowldege and skills beyond those developed in undergraduate education. In order to equip today's dental hygienist to function effectively in tomorrow's dental health delivery system, on-going continuing education is necessary for all dental hygienists. It is most appropriate that the 1973 CDHA Annual Convention will focus on the theme of Continuing Education. The program is being designed to disseminate practical knowledge and provide pertinent information and ideas which can be utilized and put into action.

WE HAVE COME A LONG WAY . . . WE HAVE A LONG WAY TO GO!

Joan S. Voris
Chairman
CDHA Sub-committee on Education

LETTER TO THE EDITOR

Dear Editor,

Following the recent meeting of the Council on Health Care of the Canadian Dental Association, your representatives, Marjorie Weich and Pat Johnson, asked me to indicate in a letter to you how dental hygienists could make a meaningful contribution towards flouridation promotion.

Acceptance of this great public health measure has often been retarded because many people are either uninformed or misinformed. So many conflicting statements have been made, that concerned people sometimes do not know what to believe nor whom to trust. This in itself plays into the hands of opponents as it is natural for people to oppose any proposal unless they have complete confidence in it and in those advocating it.

Fluoridation ranks among the great health boons of this century. Wherever introduced, there has soon been a striking reduction in the incidence of tooth decay resulting in the saving of teeth, money and time. The dental team is then free to devote efforts to other preventive work rather than just to patch up holes in teeth.

Fluoridation is safe. Since it was first introduced in 1945 in Grand Rapids, Newburgh and Brantford, all its medical questions have been checked out time and time again. WHO recommends its use where practicable as a "proven health measure". On this continent over 100 million people daily drink water containing fluoride at an optimal level. This results in better teeth and better general health. It seems that we should take our cue from here rather than from Sweden or anywhere else.

Education is needed – quiet, unemotional assurance that fluoridation is effective and safe. Public acceptance of the measure will be greatly enhanced if all dental hygienists will make a point of first informing themselves about it and then of passing on this information to others.

To assist in this, the CDA is supplying the statistical report and fluoridation information kit to each member of your Executive and Board of Directors, and they are welcome to copy and make use of any of this material as they see fit. Special information is also available to those needing further assistance and any dental hygienist, faced with a problem on the subject, is welcome to ask for assistance in solving it. The film "Why fluoridation" may be borrowed through our distributor without charge. Two fluoridation pamphlets may be ordered at cost. (The pamphlets and kit are available in French also.)

Thank you for the opportunity to bring this to your attention. There is no doubt of the benefit to Canada's dental health if each of you will actively encourage the introduction of fluoridation for the over nine million Canadians who are still denied its benefits.

Lloyd H. Bowen
Fluoridation Officer
Canadian Dental Association

CDHA BOARD OF DIRECTORS

BURGLIND BLEI was born in Hamburg, Germany, and emigrated to Canada at the age of five. She graduated from Dalhousie University in 1968 and has had private practice experience in orthodontic, periodontic and general offices and has spent a year working as a dental hygienist in Zurich, Switzerland. Since her return to Halifax, she has taken the "extended duties" course at Dalhousie and is presently employed by the DVA Camp Hill Hospital Dental Clinic. Her other interests include skiing, music and travelling.

NOVA SCOTIA

ALBERTA

SUZANNE MACLELLAN is a 1970 graduate of the University of Alberta. Following graduation she worked for the Athabasca Health Unit for two years. She is now working in Edmonton, in private practice for two prosthodontists and a general dentist. Suzanne was the Dental Hygiene Representative for the Alberta Public Health Association for 1971-71. In her spare time, Suzanne skis, reads, plays paddle ball and makes wine. She also attends night school working toward a Bachelor of Arts.

JANET WILSON graduated from the University of Manitoba in 1970 and has since been working in private practice in Winnipeg. She was president-elect of the M.D.H.A. in 1971-72 and is currently the president as well as delegate to the C.D.H.A. Janet has been married since 1970 to Glen, a merchandiser for Westfair Foods Ltd.

MANITOBA

SASKATCHEWAN

COLLEEN MURPHY is a 1969 graduate of the University of Manitoba. Since graduation she has been working with the Department of Public Health in the province of Saskatchewan and is currently based in Regina. Colleen is the Saskatchewan delegate to the C.D.H.A. Her personal plans for the future include marriage in the fall and a move to Calgary.

PAT JOHNSON is a dental hygiene graduate of the University of Toronto and is presently working part time towards a B.Sc. She is past president of both the O.D.H.A. and the C.D.H.A. and is currently a member of the Dental Therapists Advisory Committee to the Ontario Minister of Health, the Sub-committee of the Ontario Council of Health's Sub-committee on Future Delivery of Dental Care Services and the Etobicoke Board of Health (municipal government level). Pat has had private practice experience and recently participated in the Ontario Demonstration Project for expanded duties training for hygienists. In addition, she is the Supervisor of the Dental Hygienist Placement Service. At home, Pat is married with two children.

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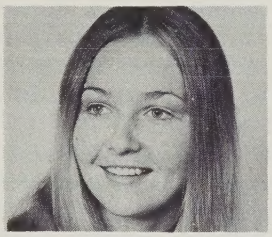

ROSALYN FROEHLICH graduated from the University of Manitoba in 1968. She worked for one year with the Department of Health in her native Saskatchewan, then attended Dalhousie University for a summer course in restorative dentistry. Rosalyn has since been employed with the Prince Edward Island Department of Dental Health where she first participated in a Dental Manpower research project and more recently is involved with the Department's Children's Dental Care Program. Besides working, she has returned to her studies on a part time basis and hopes to obtain her B.A. in Sociology in the not too distant future. Rosalyn is president-elect of the P.E.I.D.H.A.

DEBRA JOHNSTONE graduated from the University of Alberta in 1969. She is presently employed in a group practice in North Vancouver and is actively involved as president of the B.C.D.H.A. and as delegate of the C.D.H.A. In addition, she is on the CDHA Convention '73 Committee. Debbie has been married three years and since then has become an avid rugby fan. Her husband Paul, a production supervisor and sales representative, spends most of his leisure hours at this sport.

BRITISH COLUMBIA

QUEBEC

VALERIE TOD is a 1964 graduate of the University of Toronto. She worked in private practice and part time public health in Ontario and then moved to Vancouver where she worked for two years in private practice. Currently, she is employed by two Montreal periodontists. Valerie is actively involved as president-elect of the Q.D.H.A. and delegate to the C.D.H.A. and is also a member of Beta Sigma Phi Sorority. She has been married for two years and enjoys sewing, golf and skiing.

ROBERTA ATKINS is a 1963 graduate of the University of Toronto and is presently employed full time in a group practice. She has been actively involved in the O.D.H.A. and is currently president-elect to the O.D.H.A. and delegate to the C.D.H.A. Roberta has two daughters, Jennifer and Linda, and her hobbies include needlework, reading, refinishing furniture, sewing, decoupage and being crew member of a race car team.

FISSURE SEALANTS: PRACTICAL NOTES

Richard H. Roydhouse, B.D.S.(N.Z.), M.S., D.D.Sc.
Alan S. Richardson, D.D.S., M.S.

Dr. Roydhouse is a Professor in the Department of Restorative Dentistry, Faculty of Dentistry, University of British Columbia.

Dr. Richardson is an Associate Professor in the Department of Restorative Dentistry, University of British Columbia.

The use of adhesive plastic materials to seal pits and fissures became a reality[1] in 1961 when the first permanent molars of 200 children in Rochester, New York were sealed. The material was the polymer which was later developed[2] as the base for composites. Other groups[3, 4] later tried other adhesives such as cyanoacrylates, but without success. Since that time two commercial products[5, 6] Epoxylite 9075* and Novuseal** have become available. Both are developments of the system using the polymer bisphenol-A glycidyl methacrylate (BPA-GMA); the systems differ in their viscosity and in the catalysis.

Why were sealants developed? It was pointed out[1, 7] that fluoridation of water supplies decreased smooth surface caries by only ten percent. The need for additional protection was therefore established. However, prevention since then has become of importance within the dental office as well as in general public dental health. Fissure sealants represent a method, not costly in either time or money, which can be seen in action by both patients and parents. Fissure sealants are the beginning of the use of dental materials within a dental office with prevention in mind, rather than repair. It is a practical, simple way of preventing caries. With the patient's or parent's attention and sympathy thus almost guaranteed, the hygienist or dentist can enlarge upon methods which are less tangible or certain. An increasing number of materials for individual caries prevention will become available, and fissure sealants represent but the beginning of a trend.

Clinical Success

The success of fissure sealants in published and unpublished reports varies from zero to one hundred percent. However, two studies[1, 5] indicate the potential. Where the 9075 system essentially was used[1] in a fluoridated community, the one application decreased caries after three years by a figure in excess of thirty percent. In a non-fluoridated area, a success of ninety percent or more was recorded. In studies such as these where mass application methods are used, information about the general nature of the sealants is produced; but what can be said to an individual who asks "Will it work?". It appears that failures arise from the failure of the materials to stay on the tooth, rather than from incomplete coverage or leakage after application. Possibly, if the sealant coat stays there, it will give one hundred percent protection. Thus the clinical method for the dental office can be formulated.

We would suggest that the persistence of the sealant be checked three to four weeks after initial application. If it is present then protection is assumed; if absent, recoating and re-checking is done. By this method protection for one to two years can be expected.

Methods of Application

The teeth are cleaned in the routine prophylaxis. The teeth to be coated are isolated. If a rubber dam has been applied for operative purposes, such isolation is capitalized upon and all pits and fissures may be done.

The first step is etching. A phosphoric acid solution is applied. This solution removes attached microscopic debris and films deposited upon the enamel. Also the outer layer of enamel is dissolved. This outer layer before etching is hypermineralized, unreactive and not suitable for adhesion. The etching affects such surfaces within thirty seconds of acid application. Any demineralization from this solution will remineralize in the mouth if it is not covered by sealant. Some concern is expressed about this step. However, selective minor surface demineralization is to be preferred to dental caries. It is assumed that there is a real risk of caries in the site to be coated; if there is no risk of caries, then no sealant or etching is needed.

The etched area is washed thoroughly after two minutes*. Saliva should not be allowed to contact these reactive regions again until the sealing is complete, because salivary protein will help to prevent adhesion. In the Epoxylite system a coating of adhesion booster is now applied for fifteen seconds. This vinyl silane dissolved in ether coats the enamel and enhances the adhesion of the polymer which is applied next.

The adhesive is then applied. In Novuseal the premixed polymer is spread over the pit and fissure areas and is then catalysed by an ultra-violet gun. In the Epoxylite 9075 system, part A of the polymer is applied, then part B. We suggest using two separate tweezers so that cross-contamination between these bottles will not occur.

If at any time saliva covers the tooth, then the process should begin again. Upon completion, occlusion should be checked to ensure that the Nouvseal has not interfered with the opposing cusps; some occlusal grinding may be necessary. Such will not be necessary with Epoxylite 9075 as the film produced is very thin and almost invisible.

Advantages and Disadvantages

Which system should one use? On the basis of success rates there is no real differentiation possible between the two systems. It seems to be clear that if the sealant re-

* Lee Pharmaceuticals, El Monte, California
** Caulk Division

* Manufacturers intend their materials to be successful; therefore, follow their instructions, which may change from time to time.

mains in place for three to four weeks, ninety percent or more success may be achieved. In the Epoxylite 9075 system, some difficulty at first will arise as one attempts to check its presence; the sealant may be very hard to find; there is a suggestion that the material be made fluorescent.

The major difference is in the viscosity and in the cost. Novuseal is thicker and will penetrate less into fine pits and fissures, but will afford visible evidence of occlusal coating. Epoxylite 9075 will penetrate into finer and deeper fissures but will appear less on the surface. The Epoxylite 9075 will cost less per application. The Novuseal system uses an expensive light which can only be used for the sealant and possibly a new composite. Each bottle of pre-mixed material of Novuseal has a short life. The Epoxylite system requires no light and if cross-contamination between bottles of Part A and Part B is avoided by use of two tweezers rather than one, shelf life is no problem.

Choice of Suitable Teeth

Molars should be coated within six months of their appearance through the gingiva. Caries incidence data indicates that the molar occlusal surfaces are highly susceptible to dental caries and may show signs of decalcification within six to twelve months. However, if they have not suffered caries within two years or so, the caries rate in that particular mouth will be quite low.

Should molars of adults or teenagers be coated? Although hard to determine or show, it is a common clinical belief that caries attacks varies with age and circumstances. It is common to see first year University students with more than three or four cavities due, we presume, to change in circumstances, dietary habits and so on. Thus it is difficult to make a blanket statement about teeth which have been erupted for over two to three years. No harm will be done by sealing them.

We cannot emphasize enough the need for sealing newly erupted first and second permanent molars. Successful sealants will often result in the delay of operative work until proximal lesions occur. Fluorides in turn reduce the rate of proximal lesions. If proximal lesions do occur, the resulting two surface restorations will be clinically superior to ones in which occlusal restorations have previously been placed. Equally important, the patient has been made aware of our desire to prevent rather than repair; the overall pursuit of dental prevention has been assisted.

Conclusions

We strongly recommend fissure sealants; first because they will probably prevent or delay the placement of restorations. As important is our belief that they represent an important phase in the overall prevention of dental caries. The application is simple and can be made effective by re-checking on the presence of the sealant three to four weeks later. The cost can be minor. The fissure sealants are new in dental practice, suffering from all the deficiencies of "first materials", but we stress they should not be the last of materials to be used to prevent dental caries in the dental office. The application of sealant provides an opportunity to emphasize dental prevention as a practical alternative to dental restoration.

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COMMUNITY HEALTH CENTRE PROJECT

Donna Gunther, R.D.H.

Miss Gunther is a 1969 graduate of the University of Alberta. She has been employed in Public Health in Alberta and British Columbia. Currently, she is the Dental Hygiene Supervisor in the Okanagan Dental Health Centre in Kelowna and also acts as Provincial Consultant in Dental Hygiene for the Health Branch in Victoria. She is President of the Interior Dental Hygienists' Association and Chairman of the CDHA Community Dental Health Committee.

The above title refers to the description of a new proposal in the system of the delivery of health care in Canada and is commonly referred to as the "Hastings Report". This report is based on a one year study by a committee appointed by the Conference of Health Ministers. The Committee Chairman and Director of the Project was Dr. John E. Hastings, and his report was submitted to the Honorable John Munro, then Minister of National Health and Welfare and Chairman of the Conference of Health Ministers, on July 21, 1972.

Since then, this report has had the health professions in an uproar. It is in the interest of all hygienists to understand some of the implications of this report.

The principal recommendations of this report are as follow:

1. The development by the provinces, in mutual agreement with public and professional groups, of a significant number of community health centres, as described in this Report, as non-profit corporate bodies in a fully integrated health service system.
2. The immediate and purposeful reorganization and integration of all health services into a health services system to ensure basic health service standards for all Canadians and to assure a more economic and effective use of all health care resources.
3. The immediate initiation by provincial governments of dialogue with the health professions and new and existing health services bodies to plan, budget, implement, co-ordinate and evaluate this system; the facilitation and support of these activities by the federal government through consultation services, funding, and country-wide evaluation.

In summary:

> . . . community health centres are increasingly seen as an important means for slowing the rate of increase in the cost of health services and for more fully reflecting the objectives, priorities and relationships which society wishes to establish for health care in the future.[1]

The community health centre as seen by the Committee is a facility or group of facilities where individuals and families can obtain initial and continuing health care of high quality. Care would be provided by medical, dental and related professionals. The team approach would be utilized, each discipline using its training and skills in mutual support of the other services in order to solve health problems of all citizens.

According to the committee, these facilities could exist as part of hospitals, health units, or professional office buildings. In some areas, however, new buildings would be constructed. These community health centres would definitely not act as acute care hospitals and would not have overnight hospital beds. On the other hand, they would provide twenty-four hour emergency health care as well as service for normal business hours.

The committee cannot visualize a fee-for-service system in such a centre but do believe that everyone working in the centre should preferably be on salary. The salaries visualized are such as to make it an attractive substitution to the present system.

These are two main reasons for proposing a new system of delivering health care. In the first instance, governments are apparently becoming increasingly concerned over the rising expenditures and costs of delivering care in acute-bed hospitals, and, they also evidence some despair with their experience with medicare and their inability to control the incomes of physicians. These points come through as the main reason given for the need for change. Secondly, however, deeper reading of the report and discussion with committee members bring out what I feel to be even a stronger motivation for proposing change. This is evident by the active participation of the consumer groups and the developing philosophy that becomes apparent whenever discussion about the community health centre is held. That philosophy can be described as follows. There is a current belief that the delivery of health care is actually a partnership between the providers of health care and the users — the public. This partnership is seen as the cost of the professional's education to the public as well as the facilities provided, such as hospitals with their equipment, supplies, and labour, such as nurses and orderlies to assist in the care of individuals. Another word for user or consumer is purchaser. The purchaser is in the same position to health care delivery as he is in regard to anything else he buys. If he is not satisfied with the product he buys and if he feels it costs too much for the value he receives, then he looks for an alternative. The development of the "Community Health Centre Project" is, in my belief, an expression that many people in our society are suggesting that some alternative to the present system of health care delivery is needed.

It is evident that this proposal is one that would make severe changes in our present system. The committee which unanimously approved this report, was composed of physicians, nurses, behaviorial science personnel, social workers, a lawyer, and a representative of the consumer groups. Although briefs from dental organizations, including one from the CDHA, were solicited, I think it is very much worth noting that not one dentist nor one hygienist was a member of this committee.

What are the implications for dentistry? The committee describes the basic dental unit as personnel whose combined skills are those usually found in the dentist, hygienist, and chairside assistant. However, they promote the concept of expanded duty auxiliaries such as restorative assistants in the vein of the Prince Edward Island experience, or the New Zealand dental nurse practioner. It is their concept that such a unit could provide service for between 2,000 — 3,500 people depending on geography, accessibility, etc. A community health centre could have several such dental service units. Obviously, then,

some change would occur in that hygienists and dental assistants would no longer be employees of the dentist they work with, but like him, would now be employees of the Community Health Centre. All dental auxiliaries would seem to be expected to upgrade their training so that they can provide faster and more effective treatment directly to the patient. This concept is expected to lower the cost of service because that service would then cost what money it takes to maintain the auxiliary in the health centre. This would be opposed as to the cost at present where in most instances, the committee imply that the cost of service when performed by an auxiliary is charged out as though the dentist had still provided it himself. There is also the implication that preventive services would become much more important and that the preventive and educational aspects of dental public health services can readily be co-ordinated with these same activities in the Community Health Centre. There is also the implication of the need to be able to develop dental services from this centre to the unserviced or underserviced or rural areas of the community. It is likely then, that some mobile type of dental clinic would become a necessity in some areas.

What do dentists think about such a system? Most dentists are dedicated to the fee-for-service principle. They would probably resist an attempt to place them on salary. They are used to working with their own equipment in an office of their own design, and with auxiliaries that they personally select as people that they want to work with. They are accustomed to working the hours they want to and taking holidays as they like. Although the committee feel that these objections can all be solved, there would seem to be many deep rooted feelings among dentists that would have to be overcome before they would be enthusiastic about such a system. Dentists indicate that independence is one of the main factors why they became dentists in the first place. Many incentives may have to be offered to gain co-operation of dentists in such a project. An example would be sabbatical leave every few years. However, aside from the economic and independence principles, most dentists express willingness to co-operate in an acceptable programme of delivering an improved system of dental care to the public.

Dentists express some concern about the teamwork philosophy of the Community Health Centre. Their experience in working with physicians in community hospitals, and provincial, federal and civic health departments has not been too successful. In every instance, physicians have wanted the ultimate control, and dentists are wary of medical domination. The Hastings Report suggests that the other professions are no longer willing for the physician to automatically be the team leader. Whether physicians would accept this or not would depend on the organization, control and the chain of responsibility throughout a health centre.

What about the other members of the health and allied professions and their feelings and reactions? Certainly not all are in agreement with this new proposal. In October of 1972, I attended a seminar at the University of British Columbia whereupon Dr. Hastings and his senior staff discussed their project. Some of the reactions presented by representatives from professional groups included the following. Nurses, dieticians and physiotherapists expressed the desire for increased responsibilities in dealing directly with patients coming into health centres for treatment. Most physicians and hospital administrators on the other hand, were not in agreement that this proposal was a good one since they felt the cost of health care would not be reduced, especially initially. The consumer groups wholeheartedly approved of the proposal since under these new terms they felt they would receive better service for their money. They did however express some concern over possible gaps, overlaps and duplication.

One other point that came through 'loud and clear' Dr. Hastings said, was that the other professions were no longer willing to accept the dominance of the physician in providing health care, and that although they respected the physician and his knowledge, they wanted to be treated as colleagues.[2]

On behalf of the Canadian Dental Hygienists' Association, in February of 1972, Mrs. Linda Zambolin, President, submitted a report to the Hastings Committee. In this report implications for the hygienist were stated as follow:

> The dental hygienist has a very significant role to play as a member of the 'dental team' in the delivery of dental service, no matter what the delivery system might be. By nature of her traditional education, she is preventive orientated and she has further expressed her willingness to take part in the alleviation and elimination of dental disease by supporting the principle of "expanded duties" as outlined in the Ad Hoc Report on Dental Auxiliaries.
>
> Maximum feasible utilization of the dental hygienist could certainly be accomplished in a health delivery system such as a community health centre where a variety of work experiences would be available to the hygienist. As a member of the dental team, the dental hygienist could be performing a combination of preventive and expanded duty procedures advantageous to her own satisfaction and the productivity of the dental team. Offering a dental service programme to a large group or community requires a well organized diagnostic and screening program if the system is to run smoothly and efficiently. Because of her biological education and background knowledge of all specialities, the dental hygienist could be responsible for obtaining information via — x-rays, oral inspection and recording of data thus providing the dentist with all the necessary tools and time to determine and implement an adequate treatment plan for community centre patients. Thus, she would be the primary contact person in the dental health delivery system.[3]

One important point that must be considered by hygienists employed in such a system is one of job position. It is obvious to anyone who has ever worked in such similar settings that concepts of class levels according to job description and salaries paid, do occur. Hygienists under present conditions probably command a higher salary than do nurses. Would this upset the nurse when both become salaried employees of the Health Centre? Hygienists should have some concern for their income levels under such a proposed scheme.

SUMMARY

The main implications of this report are that a very distinct movement is afoot, which indicates a politician and a consumer based need to change the system of delivery of health care. The main stated purpose is to save money and provide more effective care. If this new proposal is developed, it will require an integrated effort of all health professionals, and will probably cause an end to the fee-for-service structure on which our present system is built. This would result in other severe changes in professional relationships, as some health professionals express a desire to alter their dependence on the physician. There is opposition to this idea from some health professionals,

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ARE YOU A 'PROPHY QUEEN'?

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A recent study[1] indicated that 86% of dental hygiene students interviewed expected to quit working full-time within five years of graduation and that 42% had in fact left full-time employment during their first year of practice. Another survey[2] suggested that a hygienist's working life was probably limited to six to eight years, compared with some forty years for a dentist, and to correct the situation five or six hygienists should be graduated for every dentist.

Increased numbers of hygienists have many advantages, but to base such needs on a short working life ignores the basic problem of why most hygienists apparently find their jobs far from satisfying. It is hoped that this paper will provide some analysis of the situation and perhaps suggestions which can be used to increase the interest in and longevity of dental hygiene practice for the individual.

Legislated Duties of Dental Hygienists

Regrettably much Provincial legislation of hygienists' duties ensures the continuation of a severely limited role of the hygienist in dental practice. For example, legislation which prohibits "severing and cutting hard and soft tissue"[3, 4, 5] patently prevents the hygienist from applying instruments below the free gingival margin. Such application is likely to cause bleeding (i.e. severing soft tissue) as well as preventing effective removal of subgingival calculus which, due to the nature of its attachment, necessitates removal of cementum (i.e. cutting of hard tissue). Some Provincial Dental Acts are unclear whether a hygienist is permitted to take radiographs and impressions for study models, although it is presumed that such duties are an integral part of a hygienist's training.

If the Provincial Hygienist's Association feels that the hygienist's training is in excess of permitted duties or that such training does not encompass as many duties as in other Provinces, then it is encumbent upon the Association to make representation to the legislative representatives for changes.

Role of Dental Hygiene in the Dental Office

Of greater concern than legislative restrictions is the underutilization of a hygienist's training in the dental office. It does not require two years training to sit at the end of a prophy cup and dental handpiece polishing the crowns of the teeth of twenty to thirty patients a day. Such use of a hygienist as a "Prophy Queen" is an insult to the skills and training which have gone into the qualification.

The following is a composite of duties which are acquired during training and legally performed in Canada. The full utilization of these duties would make for a happier and more fulfilled hygienist and a more efficient dentist and dental office. It would be interesting to know how many of these functions are performed by each of the readers of this paper.

1. Diagnostic Material

Whilst no hygienist is permitted to make any form of oral diagnosis, the collection of data necessary for diagnosis is permissible. Clinical examination and charting of the teeth and supporting structures can provide the dentist with information for diagnosis of (a) periodontal status (colour, contour and consistency of the gingiva, pocket depths, tooth mobility, plaque and calculus scores) and (b) restorative status (existing restorations, deficiencies in these restorations such as overhangs, deficient margins, poor contour, poor contacts and marginal ridge discrepancies as well as new or recurrent decay).

These duties should be within the competence of the hygienist, as well as taking bitewing and periapical radiographs and impressions for study models which are probably more frequently performed. Such functions can be performed more efficiently if an assistant is available to record the data collected.

2. Prevention of Dental Disease

If dentistry is to come to grips with the almost universal occurrence of caries and/or periodontal disease, its emphasis must change radically from a philosophy of treatment to one of prevention. Such a change needs to occur at all levels, not least in the attitudes and teaching currently employed in many dental programmes. Fortunately Dental Hygiene has long been a leader in the field of prevention, giving considerable exposure during training to such areas as educational psychology and patient motivation as well as the techniques of disease control. Yet how many offices make use of their hygienist's knowledge in this field?

The dental hygienist should be responsible for organizing the office's preventive programme, including the acquisition of the necessary materials and the setting-up of these materials in appropriate areas of the office. Adequate time should be available to introduce and educate patients to the concepts and techniques of prevention of caries and periodontal disease. Many patients receive application of topical fluoride but how many hygienists perform caries activity tests and diet counselling, how many have adequate time to teach and supervise effective use of toothbrush and dental floss? If the office has enough staff, the hygienist could teach some preventive duties to those staff and then supervise their performance as well as organizing an ongoing recall programme.

The training may be there but is it being put into practice?

3. Treatment

The area of training which sets the hygienist apart from any other dental auxiliary is the ability to perform conservative treatment of periodontal disease and the skills necessary for complete calculus removal require prolonged training and frequent practice. As has been

mentioned some Dental Acts make it very difficult to undertake this aspect of treatment but unfortunately, where such procedures are permitted, many dental offices fail to provide the requisite time and instruments.

Thorough removal of subgingival calculus requires more than a sickle scaler. A full range of periodontal curettes suitable for adaptation to the anatomy of the root surfaces is necessary and the application of tactile skills must be employed to remove all the calculus, whose attachment to the root is frequently enmeshed in the cementum. Such a procedure obviously cannot be rushed and again emphasizes the need for great efforts at prevention – treatment can only reach but a few of those who might benefit from it.

Additional aspects of treatment which may be undertaken include the placement of packs and dressings, application of desensitizing agents to the teeth as well as fluoride applications and the fabrication and fitting of mouth guards and night guards. Also, it is often valuable to photograph the tissues prior to, during and after treatment, both to assess the progress of treatment and as a critique of one's own clinical performance.

Opportunities which should be available to the Hygienist working in a Dental Office

Apart from fully utilizing the hygienist's skills and consequently helping towards creating a meaningful working environment, the dentist can add to the satisfaction of Dental Hygiene as a profession by ensuring that adequate time is available for attending continuing education courses and Dental Society lectures and seminars. In smaller communities integration of private practice with some work in the public health sector can be very rewarding and is possible though less common in larger metropolitan areas.

Dentist's Attitude

The terms of the Dental Acts prohibit the practice of Dental Hygiene without the supervision or delegation of duties to the hygienist by a dentist. This poses problems for the hygienist who would like to practice as she has been trained but is faced with an office where she is relegated to the role of "Prophy Queen".

Some aspects of this situation are discussed in a recent paper[6] and three alternatives appear available. Ideally one would hope that the hygienist could be instrumental in effecting changes in the office in which she works. If such changes do not occur, however, there are hopefully enough offices willing to make full use of a hygienist's skills such that a new position may be found without too much difficulty. The last, and least attractive alternative is to accept what is hopefully a good salary and expect to join the large number of dental hygienists who leave their profession within a few years of graduation.

Expanded Duties

Will expanded duties make Dental Hygiene a more attractive profession and consequently ensure a more productive working life?

Those who envisage expanded duties incorporating a variety of restorative procedures[7, 8] are, in the opinion of this author, falling into the old trap of orienting dentistry and dental practice towards treatment. Such a policy has been in existence for years and has manifestly failed to improve the dental health of the population. If it is felt additional manpower is necessary for treatment purposes, train an entirely different auxiliary – one who is entitled to cut cavities as well as fill them.

A dental hygienist is too highly trained to be thrown into a role of plugging amalgams at the expense of preventive education plus treatment of the supporting structures of the teeth. If expansion of duties means fuller utilization in these latter areas, as is proposed by some authors[9, 10, 11], or means bringing all Provinces to a more equal level of training and legislated duties, then there would appear to be considerable merit in such expansion.

Additionally, with adequate training, it would not appear unreasonable to expect a hygienist to become competent at the administration of local anaesthetics. This would enable patients with sensitive teeth and/or tender gingivae to receive more comfortable scaling without the necessity of the dentist giving the anaesthetic and would also make for a more efficient office as the hygienist would be able to place a local anaesthetic for the dentist.

Conclusion

Dental Hygiene can be and should be a most rewarding profession. Regrettably, the skills acquired during training often are poorly or incompletely applied in practice, leading to a working life which is too short. Fuller utilization of the existing duties a hygienist may perform appears to be one answer to the problem.

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* British Dental Journal, *January 18, 1972. Page 57, Drs. Jones, Losdan and Boyde.*

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PSYCHOLOGICAL CONSIDERATIONS IN THE TREATMENT OF THUMBSUCKING

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Considering the important role of the sucking reflex in the development of the young infant and the convenient location and shape of the thumb, it is not surprising that most babies engage in thumbsucking to some degree. In only a small proportion of the cases, however, does this behaviour persist beyond the age of three to four years and develop into a behaviour problem. In contrast to the usual difficulty encountered in the treatment of behaviour problems, the difficulty with thumbsucking is not to develop effective methods of treatment since effective treatments do exist; the problem is to decide whether or not to use the treatments which are available.

Two common attitudes concerning thumbsucking suggest that it is best to leave it untreated. One view of thumbsucking is that it is both normal and harmless; the only real problem with thumbsucking is the needless parental over concern and the resulting strain placed on the parent-child relationship. Support for this view comes from two sources. First, psychological studies have consistently shown that thumbsucking does not produce harmful "psychological" effects (cf. Gesell & Ilg, 1937; Traisman & Traisman, 1958; Haryett, 1967). Davidson and Haryett (1967), for example, were unable to find any consistent psychological abnormalities in thumbsucking children between 6 and 12 years of age by using a battery of tests of personality and adjustment. Second, some dental studies have minimized the seriousness of thumbsucking as a cause of malocclusion. For example, Johnson (1939) reported that only 17 percent of 989 cases of malocclusion in children under three years of age could be attributed to thumbsucking, and Traisman and Traisman (1958) reported that only 10 percent of thumbsucking children under three years of age had malocclusions. Of course the obvious problem with these studies is that the subjects were too young. Thumbsucking produces little permanent damage if it does not persist past the age of four or five (cf. Mack, 1951; Schmidt, 1960; Capouya, 1959); most malocclusions caused by oral habits will be self-correcting providing the habits are discontinued at an early age. Although it is undeniably true that not all thumbsucking produces malocclusion, the longer the thumbsucking habit persists the greater the likelihood of oral pathology. Thus, thumbsucking per se is not the problem; it is only when the habit becomes chronic extending beyond the "normal" levels of intensity, frequency, and duration, that it becomes a serious threat to oral development (Graber, 1958). The fact that chronic thumbsucking can be a serious problem is undeniable in view of the results of a number of studies on the relation between thumbsucking and malocclusion in school age children which have been reviewed by Davidson (1970). For example, Kjellgren (1938) found that 87 percent of 167 school age, thumbsucking children had some degree of malocclusion. Haryett, Hansen and Davidson (1967) describe the specific dental effects of chronic thumbsucking as follows:

> The type of malocclusion associated with thumb and finger sucking is dependent upon the position of the thumb or fingers, the duration, intensity and frequency of the habit and the associated muscle contractions of the lips and cheeks. Pressure from the thumb causes protrusion of the maxillary anterior teeth. The crow bar effect of the thumb contributes to a flattening of the mandibular incisor segment which in turn causes mild crowding. As a result, shallow and open-bite relationships of the anterior teeth are developed. The maxillary lip is held out by the protruding incisors and becomes hypotonic. The mandibular lip may become positioned behind the maxillary incisors. In this manner, the malocclusion becomes stabilized. The strength of the cheek muscles during sucking produces contraction of the maxillary arch which becomes more tapered toward the front of the mouth. In some cases, the maxillary contraction may be so severe that tooth interferences occur in the molar regions. Compensatory lateral mandibular displacement often becomes necessary for chewing, and facial asymmetries may develop.

The second common view of the thumbsucking problem may constrain the dentist from dealing with the problem even when he is cognizant of the risks to oral health involved in allowing the habit to go untreated. According to this view which is based largely on psychoanalytic theory, thumbsucking is an anxiety reducing means of gratification for young children (cf. Pearson, 1948); but if the child continues to suck his thumb after infancy, then it becomes a symptom of some sort of underlying emotional disturbance. According to this conception of the problem, eliminating the thumbsucking response in such children would have severe emotional repercussions for the child (Every, 1948) such as night terrors and enuresis (Korner & Reider, 1955), emotional instability (Barnett, 1958), stuttering, masturbation, antisocial trends (cf. Schmidt, 1960), and sexual frigidity in later years (Pearson, 1948). These warnings have been condensed into statements such as: "Is not malocclusion of the personality more serious than malocclusion of the teeth?" (Weiss & English, 1957); or "Is it better to tolerate an unruly thumb than to develop a frustrated child? The cure may be worse than the habit." (Veeder & Pollock, 1952). Most of these profound psychological dangers unfortunately appear in dental journals as established psychological knowledge when, in fact, they are based on unsubstantiated opinion or clinical inference and not on experimental or even empirical evidence (cf. Bakwin & Bakwin, 1938; Gandler, 1952; Barber, 1960). In fact, Graber (1963) reports that during the successful treatment of more than 600 cases of thumbsucking over a 17 year period that he did not observe a single case of symptom substitution.

Although, as mentioned above, the available data do

not support the view that thumbsucking children are more emotionally disturbed than controls, advocates of this view recommend that thumbsucking be treated, if at all, by pediatricians (cf. Hagen, 1956) or psychiatrists (cf. Levin, 1958) and not by dentists who are unqualified to handle the supposedly inevitable psychological repercussions of successful treatment. In such cases, the thumbsucking itself is usually ignored and the attention of the therapist is focused on parental-child relations, parental attitudes, or "unconscious" anxieties. It is thus not surprising that there is no adequate experimental evidence demonstrating the effectiveness of such treatment.

An alternative conception of the problem of thumbsucking has lead to, or is at least consistent with, techniques which have been shown to be effective in dealing with this problem. According to this view (cf. Eysenck, 1960); Davidson & Haryett, 1967), thumbsucking is a conditioned response which is maintained by the reinforcing consequences of the thumbsucking. The essence of the view is that thumbsucking itself is the illness, and that it is not merely a reflection of some hypothesized, deep, underlying emotional disorder. Furthermore, if thumbsucking is a learned response, conditioning principles which have been well established by extensive laboratory investigation in humans and other animals may be used in its control.

One technique for modifying a maladaptive conditioned response is to make the reinforcements which are maintaining that behaviour contingent on a more adaptive response. For example, in the case of thumbsucking, a pacifier can presumably produce similar gratification with much less risk to the well-being of the patient. Thus, one of the few consistent etiological findings is that the use of pacifiers during infancy significantly reduces the incidence of chronic thumbsucking. Haryett (1967) compared 146 thumbsucking children with carefully matched controls and found that the only consistent difference between the two groups on hundreds of variables was that nonthumbsuckers had a higher incidence of pacifier usage. The problem with such treatment, of course, is that it must be administered long before thumbsucking becomes a real problem. In the same vein, Chandler's (1878) claim that "sleeveless night dresses are the only treatment that will work" is hardly applicable to the serious, chronic thumbsucking that occurs in older children.

Most "home remedies" are based on some kind of restraint or punishment such as restraining the thumb with mittens or splints, bandaging the thumb, painting the thumb with vile tasting prescriptions, bribery, scolding, threats, and physical punishment. Like most home remedies, the effectiveness of these techniques have no experimental validation. However, Flesher (1956) in an uncontrolled study of 40 cases, found that coating thumbs with a bitter prescription resulted in cessation of thumbsucking in 75 percent of the cases. The problem with this technique, however, is that it is least effective with the older children who need the treatment most but who are old enough to circumvent it. One can also reduce the incidence of a conditioned response by reinforcing an incompatible alternative. This technique was used by Baer (1962) who administered cartoons to a five-year-old boy contingent upon nonthumbsucking. Although thumbsucking was effectively controlled in the experimental environment, there was little generalization to other situations.

The problem with all of the aforementioned behaviour modification techniques is that they do not eliminate the reinforcing effects of thumbsucking. Reinforcing alternative responses or punishing thumbsucking is likely to be only partially effective if the reinforcement for thumbsucking is allowed to continue. In fact, one of the most effective ways of eliminating a conditioned response is to extinguish it, that is to allow the response to occur while withholding reinforcement; and the technique which has been most effective in the treatment of chronic thumbsucking approximates this procedure. A simple crib-shaped appliance is cemented onto the teeth and rests passively against the roof of the mouth; usually for about 12 months (Haryett, 1962). If this palatal crib is properly constructed and placed, it serves three purposes. It breaks the suction between the thumb and the roof of the mouth, and also prevents the thumb from stimulating the palate; thus, the child is not restrained from placing his thumb in his mouth but the satisfaction derived from it is eliminated (Haryett, 1962). Thirdly, the palatal crib facilitates self-correction of the malocclusion after thumbsucking has diminished by preventing the tongue from thrusting into the gap created by the anterior open-bite. A number of studies have found the palatal crib to be a highly effective and harmless method of extinguishing the thumbsucking habit (cf. Massler & Chopra, 1950; Brandhorst, 1957; Jarabak, 1959; Moyers, 1963; Graber, 1963). Haryett, Hansen, and Davidson (1967) in a study employing 66 subjects found the palatal crib to be 100 percent effective, whereas all other treatment methods had no greater remission rate than that of untreated controls. Moreover, these subjects were followed up for several years (Davidson & Haryett, 1967) and the results clearly failed to support psychoanalytic warnings about symptom substitution. In fact, there was some evidence that arresting chronic thumbsucking had positive effects, decreasing the likelihood of other "serious" habits. The one apparent disadvantage involved in using the palatal crib is that there is typically a short period of adjustment which sometimes involves some temporary eating problems and some minor speech difficulties (lisping) which usually clear up in a few weeks. On the other hand, children with speech problems sometimes show improvement after insertion of the crib, perhaps because of the cribbing effect on the tongue.

Thus, in spite of the frequent warnings in the literature, there is no conclusive evidence that arresting the thumbsucking habit will result in any kind of psychological disturbance, and there is a growing amount of empirical data suggesting that arresting the habit may actually result in improved psychological adjustment. In view of this fact and the serious hazards involved in chronic thumbsucking, there seems to be no reason why the empirically verified techniques for the prevention and cure of thumbsucking should not be employed.

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DENTAL HYGIENIST required for a preventive oriented practice in North Vancouver, B.C. Modern office, sit-down dentistry, ideal working conditions, freedom to introduce new ideas into preventive control program. Hours 9 to 5. Starting — 4 days a week, leading to full time in future. Reply to Box A, CDHA, 1136 West 40 Avenue, Vancouver 13, B.C.

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ORTHODONTIST requires services of Dental Hygienist. Location: Moncton, New Brunswick. Position available immediately. Send replies to Dr. M. J. Cripton, 567 St. George Street, Moncton, N.B. Phone 855-0526.

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FACTS ON FLUORIDATION

The following information is designed to help answer some frequently asked questions of a general nature about fluoridation. If more specific information on the subject is desired, please direct inquiries to the Fluoridation Section, Bureau of Public Information, Canadian Dental Association, 234 St. George Street, Toronto 180, Ontario.

IN BRIEF: WHAT IS FLUORIDATION?

Many years ago it was discovered that people born and raised in areas which had about one part per million of fluoride present in their water supply were blessed with good, strong, teeth. The fluoride was supplied by nature. Experiments were then started to add the element to fluoride-deficient waters. Results were identical. It was found that the best level is approximately one part fluoride to a million parts of water (by weight). In this proportion fluoride is effective and safe, odorless and tasteless, and the teeth have a built-in strength against the mouth acids which cause dental decay.

Almost all water supplies contain fluoride in varying proportions. Where testing indicates that the fluoride concentration is too low for greatest benefits, it can then be adjusted to a level of one part per million. — This is controlled fluoridation.

Fluoridation of community water supplies for prevention of dental decay is one of the great discoveries of the century. Wherever it has been tried the reduction in tooth decay among children has been striking, often ranging from 50 to 70 per cent and occasionally greater. There have been dramatic reductions at Brantford, Ontario where fluoridation has been in effect since June 20, 1945. The Brantford water system was one of the first three in the world to be fluoride-adjusted.

Fluoridation is a well-proved public health measure. It is advocated by the World Health Organization and by the International Dental Federation as well as by a long list of medical, dental and scientific organizations that are qualified to do so.

FLUORIDATION COSTS

The cost of a controlled fluoridation installation will vary with the volume of water to be treated.

Approximate installed cost for a small unit should be in the neighbourhood of $2,000 — $2,500. For a somewhat larger unit the cost would likely be $5,000 and up.

For specific cases, in order to ensure that a representative cost figure is obtained, it is best to contact the equipment manufacturer or a consulting engineer.

After the equipment comes into operation, the cost of the fluoride to be added to the water should be approximately 8 — 12 cents per person per year, depending upon the fluoride compound used. For example, in Ontario the average fluoride cost reported for 1971 was 10.6 cents. Where operating costs were added the average was 16.8 cents per person per year.

HOW DOES YOUR PROVINCE STAND?

Use of fluoridated water in Canadian provinces and territories as of December 31, 1971, expressed:

-as percent of total population		-as percent of possible coverage (total on piped drinking water)	
1. Manitoba	65.3	1. Manitoba	88.1
2. Ontario	59.7	2. Northwest Territories	77.1
3. Yukon Territory	44.1	3. Ontario	72.0
4. Northwest Territories	40.7	4. Nova Scotia	65.4
5. Alberta	37.1	5. Prince Edward Island	63.2
6. Nova Scotia	36.7	6. Yukon Territory	62.5
		7. Saskatchewan	56.0
		8. Alberta	49.3
CANADA	35.4	CANADA	45.1
7. Saskatchewan	35.3		
8. Prince Edward Island	18.8		
9. Quebec	12.9	9. New Brunswick	23.4
10. New Brunswick	12.6	10. Quebec	15.3
11. British Columbia	8.9	11. Newfoundland	14.8
12. Newfoundland	7.5	12. British Columbia	11.1

STATUS OF FLUORIDATION IN CANADA
as of December 31, 1971

	Water systems	Communities supplied	Population served
Controlled fluoridation	363	464	7,461,263
Naturally occurring fluoridation	204	169	207,280
Total with fluoridation	567	633	7,668,543 (X)

(X) This represents 35.4% of the total population of Canada (SC June 1, 1971) and 45.1% of those on piped drinking water.

Some noteworthy centres using controlled fluoridation (drinking water supplies with the fluoride content adjusted to the optimum level for protection against tooth decay):

Toronto, Ont.; Winnipeg, Man.; Edmonton, Alta.; Ottawa, Ont.; Hamilton, Ont.; Mississauga, Ont.; London, Ont.; Windsor, Ont.; Laval, Que.; Halifax, N.S.; Saskatoon, Sask.; Moncton, N.B.; Prince George, B.C.; Corner Brook, Nfld.; Charlottetown, P.E.I.; Whitehorse, Yukon, and Yellowknife, N.W.T.

THE POLICY STATEMENT ON FLUORIDATION OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION
(October 1967)

The Canadian Dental Hygienists' Association endorses water fluoridation on a community basis as the most logical approach in the prevention of the disease of dental caries, and recommends to the people of Canada that communities having a public water supply adopt a procedure for adjusting the fluoride content of their water supply to a level considered optimal for maximum prevention of dental decay.

THE POLICY STATEMENT OF THE CANADIAN DENTAL ASSOCIATION ON FLUORIDATION

Whereas tooth decay, by affecting the vast majority of people in Canada, is one of the major health problems of our time, and

Whereas the prevalence of tooth decay is strikingly low in areas where the concentration of fluoride in the water supply is at or close to the optimal level, and

Whereas nearly all drinking waters have some fluoride naturally present but most are deficient in it, and

Whereas the optimal level of fluoride can be obtained by a controlled adjustment known as fluoridation, and

Whereas experience in many countries involving millions of people, as well as extensive and documented scientific research, reveal fluoridation to be an efficient, safe and inexpensive public health procedure, and

Whereas there are no alternative methods of equal effectiveness,

Therefore, be it resolved that the Canadian Dental Association recommends that, where possible, the fluoride content of community water supplies be adjusted to the optimal level for the maximum prevention of dental decay, as a proven health measure, and for this purpose competent dental, medical and engineering advice be sought, and

Be it further resolved that, where community fluoridation is not feasible, individualized methods of supplying fluorides for the protection of dental health be considered.

WHY SOME OPPOSED FLUORIDATION

Many reasons can be given (apart from organized opposition) why some people have refused to support fluoridation even though it has the backing of the highest authorities. The following list is not exhaustive, but it shows a few considerations that came to light during recent plebiscites:

1. Some felt not sufficiently informed to give fluoridation the confidence of their "yes" vote. (Many would have liked to know more about it.)
2. Some admitted its effectiveness, but wanted no compulsion. (Fluoridation does not deny any fundamental or basic right or liberty.)
3. Some believed that the dental, medical and pharmaceutical professions are divided down the middle instead of just by a relatively small fringe.
4. Some thought it to be expensive and wasteful. (The savings to a community are many times the investment in money alone, let alone in health.)
5. Some were just against all change.
6. Some were genuinely afraid. (Older people or those with an illness need have no fear. It is safe for all.)
7. Some people took a selfish attitude, thinking that fluoridation might not help them so why should they vote for it? (These were often people with no children or no teeth.)
8. Some health food enthusiasts, naturopaths and others claimed that it interferes with nature. (Fluoride is naturally found in most water supplies but some are deficient in it.)
9. Some religious groups sincerely thought of fluoridation of drinking water as medication and therefore contrary to their religious beliefs. (We respect their views, but maintain that it is not medication but nutrition.)
10. Some opposed it because they disliked organizations favouring it or perhaps they had some personal reasons.
11. Some were confused or just disinterested so voted "no".
12. Some believed that alternative methods are available that are just as effective. (There are alternative methods that are useful but not as effective and should not be considered as substitutes.)

If fluoridation is planned for your community, the public should be given the facts early about its safety and benefits. This should be done anyway but especially so if a plebiscite is required.

FLUORIDATION SUPPORTERS

Some professional and lay organizations that have adopted policies favourable to fluoridation:

Canadian —
- Association of francophone medical doctors of Canada
- Canadian (biennial) Conference on Dental Research
- Canadian Dental Association
- Canadian Dental Hygienists Association
- Canadian Medical Association
- Canadian Nurses Association
- Canadian Paediatric Society
- Canadian Pharmaceutical Association
- Canadian Public Health Association
- Canadian Society of Dentistry for Children
- Department of National Health and Welfare
- Dominion Council of Health (the federal and all provincial deputy ministers of health)
- Health League of Canada
- Canadian Federation of Business and Professional Women's Clubs
- National Council of Jewish Women of Canada
- National Council of Women in Canada
- Voluntary Committee on Health of the Senate and House of Commons

Provincial — and local
- Most provincial departments of Health
- Morden Committee (appointed with Royal Commission powers in 1959 by the Government of Ontario; report issued 1961)
- Medical, dental and pharmaceutical colleges and local societies
- Local boards of health and health units
- Medical officers of health, dental directors and public health nurses across Canada
- Lay associations (e.g. Toronto and District Labour Council)

Universities —
- Heads of departments of preventive medicine of 10 Canadian and 65 American universities

Others — selected from outside Canada
- Inter-Association Committee on Health
- American Dental, Hospital, Medical, Nurses, Public Health and Public Welfare Associations
- American Academy of Allergy
- American Association for the Advancement of Science
- American Heart Association
- American Institute of Nutrition
- American Water Works Association
- Commission on Chronic Illness, U.S.A.
- National Health Council, U.S.A.
- National Research Council, U.S.A.
- U.S. Department of Health, Education and Welfare
- Federation Dentaire Internationale
- World Health Organization

(The above information was prepared as a Public Service from the Fluoridation Section of the Bureau of Public Information of the CDA.)

APPLIED PSYCHOLOGY COURSE FOR DENTAL HYGIENE STUDENTS

Brenda Van Zoost, B.A., M.A.

Mrs. Van Zoost received her M.A. in Clinical Psychology at Dalhousie University, Nova Scotia, in 1968. She is presently employed in the Student Counselling Center, Dalhousie University, and teaches psychology to dental hygiene students.

The role of behavioral science teaching in dentistry schools has been assessed and emphasized in the last several years (Douglas, 1969; Kruper, 1971). Kruper (1971) found that less than one percent of a dental student's time is spent on behavioral-social sciences, and advocated that ten times that amount might be more appropriate to students' needs, considering that in practice a large percent of a dentist's time is spent in personal contact with patients. Some dental schools are moving more in this direction, establishing their own full time faculties in behavioral science. Courses offered in such schools relate the behavioral sciences directly to dentistry, such as Grier's (1970) course in communications.

The curricula for dental hygiene students are not as well documented as for dental students, but certainly the relevance of behavioral science to their career is evident. The hygienists' duties in public health and patient education require her to be adept at communication and effective in motivating people of all ages, as well as able to apply basic principles of human psychology in dental situations. MacKenzie, McCollum and Nicewonger (1968) have documented some of the many ways assistant-hygienists can apply psycological principles in the dental clinic.

In many schools it seems that the behavioral science course offered dental hygiene students is not tailored to their needs. In Canada, for instance, five schools offer dental hygiene programs, and three of these require their students to take the regular introductory psychology course offered on campus. The assumption underlying this arrangement is that students will be able to independently apply their learnings from classroom lectures to dental situations, and this assumption is somewhat tenuous.

The present paper describes the content and teaching methods of a psychology course designed especially for dental hygiene students at Dalhousie University. Some evaluative data are also presented.

Course Description

The objectives of the course were delineated as:
(a) to teach students basic principles of communication, and have them develop their skills in this area.
(b) to teach students the basic principles governing human behavior, have them observe some of these in operation, and apply them to real life situations.
(c) to teach students relevant life coping skills such as decision-making, assertiveness, self-control, et cetera.

In the first section of the course, covering communication, some of the principles discussed were communication models, non-verbal communication, good listening behaviors, verbal communication, conversation topics for different age dental patients. Handouts on the above mentioned topics were given for homework, and then were discussed in small groups during class. A final large group discussion summarized the main points. When appropriate, videotaped examples of the communication principles were shown. For example, the role of non-verbal behavior in communication was emphasized by first playing an audiotape of a family meal-time conversation, and then playing a videotape of the same situation. The additional information available from the visual cues was evidenced.

Exercises allowing students to practice good communication behaviors were also done. Working in triads, two persons interacted for approximately five minutes, while the third person observed. Then feedback was given by the observer to each communicator about his communication behaviors. Roles within the triad were switched, and the communicators tried to implement the suggested changes in their behavior.

To provide further experiences in communicating with different age levels, dental hygiene students conversed with twelve - thirteen year old youths, who came into the class for a fifteen minute period. Finally, they visited a nursery school to practice communicating with children from three to five years of age.

Examples of the psychological principles covered in the second section of the course are reinforcement, shaping, extinction, punishment, imitation, classical conditioning, motivation. These topics were covered by small group discussions of assigned readings in Whaley and Malott's book entitled "Elementary Principles of Behavior" (1969). Additional readings exemplifying the application of these principles directly to dental work were also given (e.g. Adelson & Goldfried, 1970; Gale & Ayer, 1969; Wilbur, 1957). Filmed and videotaped examples of the principles in operation were shown. Practicing hygienists had been videotaped in action prior to the onset of the course, and these tapes were analyzed by the students in terms of the psychological principles being applied.

A further teaching tool used during this section was "trigger films" (Fisch, 1970). These are very short (one to three minutes) role-played dental office scenes which are shown on videotape. Discussion follows during which students analyze the situation and also plan the course of action they would take during the rest of the appointment.

Finally, two dental hygienists who had been practicing for several years, described to the students their experiences in handling child management problems.

The last section of the course covered various life coping skills such as decision-making, self-control techniques, anxiety management, assertive training, mate selection. All of the above mentioned teaching methods

were again employed, plus behavioral rehearsal with videotaped feedback. In doing assertive training, for example, students were videotaped while rehearsing assertiveness in various dental situations as well as everyday situations. The tape was then played back to the whole class and discussed.

A self-change exercise was also completed by the students during this part of the course. They pinpointed, observed, and recorded the frequency of one of their own behaviors which they wished to change. After obtaining a one week baseline, they applied the appropriate principles learned in the second section of the course and continued their recordings for another week. Upon completion of the exercise, they submitted a report describing their project and evaluating their efforts.

Course Evaluation

From the anonymous evaluation data collected at the end of the course, it was evident that the majority of students enjoyed the course and felt they had benefited from it. The communication section was judged to be the most functional part of the course by 70.6%. When asked to identify the class they thought was best, a wide range of response was obtained. The most popular ones seemed to be (1) the classes where dental hygienists were guest speakers, and (2) a large group discussion class on mate selection. A comment received consistently was that they enjoyed the open discussions and active participation, and much preferred that teaching method to lectures.

The suggested changes for the course were (a) more videotapes of practicing hygienists, (b) more trigger films, and (c) more hygienist guest speakers. The students least enjoyed the small group discussions on the textbook material and suggested fewer of these. A textbook change was also recommended.

Discussion

The course described attempted to teach dental hygiene students, through active participation methods, how to use basic psychological principles in their careers and in their personal lives. Its success can probably be attributed mainly to the following two factors.

First of all, the teaching approach used was one which actively involved students in the learning process by using such methods as group discussions, role-playing or behavioral rehearsal, community visits, et cetera. Support for the notion that such teaching methods produce better learning can be found within many areas of study, including dental hygiene (Vidmar & McNeal, 1969).

A second factor which probably contributed to the success of the course was that it was scheduled only for dental hygiene students. Some of the advantages of such an arrangement become evident when examining course contents. Many subjects generally covered in introductory psychology courses are not relevant to hygienists, such as perception, statistics, physiology, et cetera. On the other hand, other topics are of interest and relevance to this population, but are not discussed in the typical first year psychology course. Examples are management of anxiety, communication, child management, et cetera. By having a separate course, hence, an instructor is able to develop a functional psychology course, and incorporate the research and readings which exemplify the application of psychological principles to dentistry or dental hygiene.

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DENTAL HYGIENIST REQUIRED EXPANDED DUTIES

The P.E.I. Department of Health requires several dental hygienists for its Children's Dental Care Program.

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cont'd from page 9

while others see advantages to be gained. In respect to dentistry, the submissions to the committee from sociologists requested to examine it name major areas of concern, as follow.[4] The education training and certification of dental auxiliaries is an extremely important aspect of the dental manpower problem. The sociologists state that only when the recommendations of the Ad Hoc Committee on Dental Auxiliaries are put into effect, would enough manpower be available to service such a system. The sociologists also point out that the role of the dentist vis-a-vis the physician cannot be over emphasized. Dentists will not co-operate in such a system unless they are brought in as full-fleged partners in the health field and not as second-class citizens in the land of medicine. Most of the dental profession's dealings to date in hospitals and health departments have made them extremely apprehensive of medical domination. A very good example is that neither hygienists nor dentists sat on the committee making the report.

In conclusion, I see this new proposal as one in which some attractive possibilities are suggested for the public. Also, a vigorous role in prevention and health education would be available for the hygienist. However the committee has not really spelled out how the co-operation of the medical and dental professions can be secured. Members of these professions will oppose this new concept unless a well defined financial system is also developed. It would appear that this proposal's weakness is that a satisfactory method of paying the people who provide the service, particularly physicians and dentists, was not given enough attention. Also, there is no model by which it can be demonstrated that this suggested system would actually be more economical. What this proposal has done, is indicate that changes of some kind are likely to be made in the future of health care delivery.

Whatever the changes are, I personally hope that hygienists will cling even tighter to the dental profession rather than seek other independent courses of action. In the probable event that some upheaval occurs in the reorganization of health delivery services, much more is to be gained from the 'clinging together' of the components of our profession — dentists, hygienists, dental assistants — rather than from the divisive actions that some others recommend.

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DENTAL

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APPROACH FOR DENTAL AUXILIARIES TO TEACH DENTAL HEALTH

Hans E. Franzgrote, C.D., R.D.H.

Mr. Franzgrote was formerly a Senior Dental Therapist and Instructor in the Canadian Forces Dental Services School and is presently a Staff Dental Hygienist with the St. Lawrence and Ottawa Valleys Health Unit in Cornwall, Ontario.

This paper was presented during the Public Health Preventive Dental Assisting Course of the Ontario Society of Public Health Dentists, Toronto, August 1971.

Previous observations of dental health education techniques in elementary school classroom situations may have provided a concept of the practical application of methods and media employed in health education. While there exists, no doubt, a wider approach with various valid recommendations and proven techniques as to the educational aspects of public health dentistry this outline is presented as a method of dental health education with an introduction to some of the major principles involved. Primarily, it is imperative for all dental health educators to be fully cognizant of the policy and line of authority under which the dental program is conducted. The need to be aware of the objectives and policies as implemented by the program director must be recognized. The dental health educator further has to have an appreciation of the environmental forces and influences, be they social, economic, religious, behavioural or generally what is valued or rejected by individuals or their particular social strata. Considerations must be based on criteria that will not segregate children into commendable or objectionable groups, for a child's dental health in the past has most likely been beyond its own control. (1)

Following a short reflection as to where one stands in such a program, the line of authority, the scope and directives for each individual work assignment, policy, objectives, and the socio-psychological implications the health educator can then turn to the technicalities of the program. Dental Health Education is but one important phase in Dental Public Health and can be organized in a similar manner as the overall program is designed. The principles of organization and tools of management are applicable here as at all levels of human endeavour.

DENTAL HEALTH EDUCATION (2, 3, 4)

The Goal

The aim or goal of dental health education in schools is to develop an awareness of the values of oral health among children and to increase their knowledge of and participation in those measures through which they can improve and maintain their oral health by their own efforts.

General Purposes

The general purposes of dental health education in schools and the community are:

To make oral health a valued personal and community asset. An appreciation by children of the value of oral health cannot be assumed, it must be developed. Dental health education serves in this development in respect to not only the child but also to the community leaders e.g. teachers, who must be made aware of the importance of dental health to their schools and communities.

To promote understanding and effective use of dental services which are available.

To help individual children through group efforts to become competent in carrying out those measures which they must undertake to improve and maintain their oral health.

Principles of Health Education

The Learning Process

Health education, like general education, is concerned with changing the knowledge, feelings and behaviour of people. In order to be effective it must take into consideration not only the processes by which children acquire knowledge, change their feelings and modify their behaviour but also the factors that influence such changes, especially the levels of learning within specific age groups.

Capacity for Learning

It has been shown that in spite of wide differences in kinds and rates of learning, there is a capacity at any age for significant change in ideas, attitudes and modes of behaviour. Throughout their life-span, individuals can learn and change their behaviour to ways which are more satisfactory to themselves. This fact presents a challenge to dental personnel who are trying to help children to change dental health attitudes and practices, but it does not insure that anyone will learn from an educational situation what the educator intends. What children learn depends on many factors, including the background of experience, which they as individuals bring to the situation.

Learning — An Active Process

Learning involves a change in the child's ideas and practices, and this change can only be brought about through the individual's own efforts. So long as the child is passive towards a situation no learning takes place. The fact that learning is an active process is of particular interest in dental health education. It cannot be assumed that people learn merely because information is disseminated. The following factors will influence an individual's reaction to a learning situation:

Motivation — Goals and Interests

People are interested in doing those things which seem to help them to achieve something they want or which assists them to cope with their own specific problems. Consequently, the dental health educator must be concerned with the goals and purposes of people; how they can help themselves to attain their goals and at the same time see a relationship between some of their goals and improved dental health practices.

Group Approval

An extremely potent influence on what an individual will learn is the attitude of the group to which the child belongs. Most individuals tend to conform to the accepted standards and sanctions of their families and friends. The tendency is to find out what is done, and then do it. Group approval or disapproval may be the determining factor in whether information is accepted or any action is taken.

Content of Educational Material

The health educator must always make sure that methods or materials selected for use are attuned to the value patterns of the children to be educated and that they are presented in such a way as to be adaptable to the way of living of the individual.

Real-Life Experience and Understanding

Learning takes place more effectively when the experience has a meaning to the learner and he is able to appreciate the full implications of that experience. The class teacher can advise as to the levels of skill, understanding and interests of a group.

Visible Paths and Goals

A person will change his behaviour in a prescribed manner only when he understands what action he is to take and when he sees that action as a means to achieve something he wants or needs. The action suggested by the dental health educator must be applicable to the student's normal way of life and not appear to be in direct conflict with it.

Selection and Use of Methods and Media

Methods

One-way or Didactic methods are based on the direct instruction of an individual or group of individuals: e.g. lectures, films, leaflets, posters, radio, television, advertisements, newspaper articles. These methods are of only low effectiveness as the 'information-giving' type of dental health education is not an effective method of obtaining behavioural change.

Two-way or Socratic methods are based on the interchange of knowledge between two or more people and generally agreed to be more effective in overcoming resistance to change and in promoting action: e.g. discussion groups, committees, councils, interviews, drama, projects, live demonstrations, contrived situations. These methods are more effective as people are presumed to already possess some information, feelings, interests and beliefs in the subject.

The Didactic and the Socratic approach can often be used concurrently or consecutively with good effect. The 'brush-in' or self application of fluoride toothpaste preparations under supervision of qualified dental personnel is a good example of the combined methods.

Selection of Methods

In the selection of educational methods to be used objective evidence is needed on such questions as the following: Is the action proposed physically and economically possible for the children? What are the relevant traditional habits of the people? Can a method of achieving the health goal be found that will fit in with these habits? What are the usual channels of communication in which the people have confidence? Does the method make maximum use of this means of reaching the children? Who are the leaders of the community, and how do they influence the behaviour of the people? What educational method or procedure will fit in with the leader's normal functions?

Media

The effectiveness of any medium of communication is dependent on the time and facilities available and the age, educational level and motivation of the recipients. Health educators must assess the factors which apply in any specific learning situation and choose the medium which will make this experience most meaningful. Media should appeal to as many senses of the child as possible. All media must be introduced with directive instructions aimed at the child's age level. Simple concepts should be decided on, not more than three for their attention span and preferably less.

Aids to Oral Communications

Models and demonstrations are effective adjuncts to lectures and discussions. Still pictures are low in cost and suitable for small groups. Slides and film strips, projected, are more suitable for larger groups. Films and television programs are usually produced as self-contained media and represent a powerful influence to large audiences, but are costly.

The Written Word

This may include correspondence, letters to parents or teachers, notifications, requests for consents with added health information, articles in local publications. Leaflets and pamphlets have two main functions, to familiarize rapidly a large number of people with some new or recurrent theme, and to follow up and reinforce the advice presented orally. Posters are intended to attract attention rapidly to a single word or idea, to familiarize by repetition, but they should be used sparingly and for a definite purpose. They should be changed frequently or their impact will be lost. Booklets are useful for topics where there is a high degree of public interest such as in waiting rooms, teachers' lounges or when a person requests specific information.

Principles of Public Speaking (3)

Know your subject! With an ordinary command of language one can then discuss it intelligently with others. Believe in your subject! Enthusiasm and sincerity is a driving force and half-hearted interest in one's subject communicates itself possibly with embarrassing results. Address yourself to a person! Even in a room full of people it helps not to be too self-conscious. React to a challenge! Win acceptance of your ideas and stir the thinking of the children listening. Get an objective! Speak to achieve some end to arouse interest in the subject.

Speech Evaluation Checklist (4)

Preparation: Well researched? Rehearsed? Scope of subject in relation to time allotted? Use of examples, illustrations or teaching aids?

Organization: Opening aroused interest? Goal clearly stated? Main body of speech well organized? Maintained interest? Summary?

Delivery: Posture? Hands? Eye Contact? Voice: Volume, speed, modulation, enunciation?

PROCEDURAL PATTERN (5)

Whether we realize it or not, it is a fact that everyone goes about his business doing things or getting things done in a certain manner. There is a system in our lives as a consequence of the experiences of living. The effectiveness of our personal systems is directly related to success or failure. In other words, a systematic procedure follows a certain sequence and method if it is to be successful.

The Analysis

Organization of Data and Information

This consists of an assessment of the specific situation and includes existing facts such as the location of the school, school policy, religion and economic status of the area, line of school authority, principal's and teachers' attitudes, number of children, nurse in attendance,

classroom attendance sheets, supplies available and prepared, other personnel involved and a number of data that vary from one location to another.

Assessment of Administrative Problems

Once the data have been gathered an appointment has to be made with the school authorities. This is a good time to get first hand information about the students and the school layout, the facilities and time available. The methods, media, materials and documentation can then be decided on, also such facts as the distance and time required to drive to the school.

Assessment of Teaching Problems

The teaching problems are related to the age levels or standards of group values, average intelligence e.g. in a school for the retarded, opportunity classes, a one room multigrade country school or a modern open space institution. Competition and prevailing interests in other activities by the students, the seating arrangements and the teacher's interest and cooperation are potential teaching problems. Such problems require usually instant solutions when the health educator enters the classroom in a school.

Statement of Administrative and Teaching Problems

Essentially, this statement includes the three preceding considerations of the analysis and serves as a graphic reminder what to prepare for, both with supplies and psychologically to meet not only the situation expected but unforseen circumstances.

Planning the Presentation

All planning is based on long, intermediate and short-range objectives. The long-range objective is mostly policy established by Government, e.g. to raise dental standards in a described area of jurisdiction. The intermediate-range objective applies to the local area or the program, while the short range objective is accomplished by the dental health education activity, e.g. to motivate, to inform.

The requirement in routine planning is an intelligent questioning attitude and the ability to think clearly. Six essential questions must be asked in planning and they are best remembered by Kipling's verse:

"I keep six honest serving men,
They taught me all I knew,
Their names are What and Why and When,
And How and Where and Who."

Delivering the Presentation

In the conduct of any program there will develop various circumstances and conditions which were not anticipated. The dental health educator must be prepared therefore to redirect the program to meet these conditions. Some of the problems which may arise are wastage of time and supplies, uneven or interrupted presence and flow of children during the presentation, absence of staff, disruptions due to other activities, no closed room available, poorly prepared classroom directory sheets, incorrect listing of ages, names, consents lost or forgotten, overlap of programs with nursing or school schedules, time of day, no class response, poor discipline and others. In spite of these problems, a well prepared presentation will stand on its own, especially when it has been organized methodically.

Evaluation of Procedures

The effectiveness of the presentation and difficulties encountered in the program delivery should be evaluated in a follow-up estimate. No two situations will be identical. Even a particular situation in one school will not necessarily arise again the following season. It can be assumed that an improved relationship and response in the following year from principals, teachers and students is the result of a satisfactory procedure and performance in the first place. Efforts should be redirected for the next presentation to improve on the overall technique. Consultation with the program director at this point of time would be a desirable practice.

GRADED INSTRUCTION (6)

The human being is never static. From the time of conception to the time of death, he is changing. This applies not only to physical growth and decline but very much so to the mental development and personal characteristics of the individual. Human life proceeds by stages and each stage has a dominant feature or leading characteristic. This is very much evident in the developmental stages of the child. Since the dental health educator is to a very large extent involved with the education and motivation of children, instruction attuned to the grade and age levels is subject to prerequisite psychological considerations.

In graded instruction the health educator is confronted by the complexity of the human mind which he seeks to influence by motivating children to accept better dental health habits. (7)

One of the important facts of modern life that must concern the health educator is the competition from other media for the attention of the student's mind. The daily experience of the child begins with printed or broadcast messages, with parental reminders and instructions. School continues the struggle for the child's mind together with associations of playmates and friends. It cannot be ignored that a child leans towards certain activities while it resents others. The problem here is for the dental health educator to assess and identify the children's prevailing backgrounds, interests and individual stages of development, to determine a common denominator of approach, to assure effective learning and acceptance of the dental health message. To successfully react to the assessment is a physical, psychological and social challenge to the health educator who often has to adapt to several levels of comprehension during the work of a single day.

A kindergarten child is only beginning to have some control over its motor skills and is still in the very early stages of developing from the simple form of learning (very basic concepts only, not more than three at a time) to problem solving. It very likely cannot read and has little or no previous dental health knowledge.

Grade one and two children respond to some simple words and ideas, but find it easier to have identifying pictures for better recognition. This is the time when habits are acquired. Their curiosity is well developed. Handwritten words are barely understood since most of their writing is printed.

Today and tomorrow is a reality to the grade three and four child and possibly next Christmas, but to be eighteen years old someday or an adult and to brush one's teeth until then does not impress them at all. They think of themselves as immortal, displaying the typical traits of humans of any age that it just does not happen to them what the health educator describes as consequences of neglect. However, they are curious what a denture is all about or the orthodontic wiring on the girl's teeth

from the next row. The teacher's reading text for a particular class, with its wordlist on the backpage may be of some assistance here to verify that all language has to be kept on a very simple basis at this age level. It is important here as with all elementary school children not to use bright red colours or a technique of fear arousal.

The boy in grade five lives in a tough world of his own where he fights imaginary and past historical wars over again, abominates girls and ignores the implication of a nice smile and healthy teeth. Girls in this age group can comprehend the advantage of pretty teeth as part of their good looks and pleasing appearance, but prefer not to connect it with dating in the future or to be teased about it. (8)

In the sixth grade technical words are readily handled with some help. The child has set itself certain goals regarding its dental health which may be a full extraction and dentures. From this age on to the end of the elementary school period parental and group perceptions are clearly evident. The child in this age group will be a challenge to health educators and it will be found useful to condition a class by creating feelings and attitudes through practice on the spot to obtain a desire for behavioural changes.

The Problem Child

No educator can go from school to school and perform his tasks without encountering the problem child. The possibility of meeting this problem is even more likely for the dental health educator covering a large area such as a county or several counties.

The child may be maladjusted socially, resentful through past experiences, a compulsive talker, excessively egotistic, ill or handicapped, and it may display any number of symptoms of a physical, mental or social etiology. As a dental health educator one does not normally have time to probe into the underlying causes for the child's difficulty, nor can any disruptive displays be ignored or suppressed. The teacher is usually best qualified to assist with the problem at hand. A positive attitude of empathy, taking the individual child seriously, will be most helpful. In no case will sarcasm or forceful interjection be the solution. Any child may appear to be out of focus or in a behavioural disequilibrium while it goes through a series of changes. These developmental difficulties may express themselves in annoying ways such as in vocal aggressions, disruptive displays, irrelevant questions, refusal to be involved and thereby influencing others not to cooperate, and other abnormal exhibits of the child's difficulty. It will be helpful and reassuring to prepare and anticipate for such occurrences. Being overfamiliar with children can cause trouble. A businesslike and cordial manner aids to keep their attention. The know-it-all can be engaged as an aid in the preparation to forestall him from being interruptive, or he may be asked to tell about his dental knowledge, which can then be integrated into the program. In all cases it is important not to appear offended, fearful or disturbed but rather to try to be humorous in alleviating a tense situation and to recover the reigns of the class discipline. Common sense applies here as elsewhere. Not becoming ruffled or annoyed will in the end be appreciated even by the worst ruffian previously encountered.

The answer to behavioural problems during dental health presentations cannot be cut and dry but has to be adapted to individual situations. Successful management of problem situations is directly related to the health teacher's maturity, awareness, knowledge and professional tact.

SUMMARY

The dental health educator in elementary schools provides a service in which the chief goal or objective is the motivation of children and indirectly their parents to utilize the preventive, diagnostic and control techniques that are available. The methods and media employed are subject to the principles and guidelines that are applied in all aspects of education with specific dissemination of dental health facts. Control and direction of all dental health education programs are the responsibility of the program director. Approaching the design of the program delivery involves utilization of principles of health education, management procedural techniques and physio-psycho-sociological considerations. Personal attitudes should be attuned to the overall concept of the WHO definition of health as a state of complete physical, mental and social well-being and not merely the absence of disease, paralleling the theme 'optimum servitium, optimum benefactum'(9), to provide the best possible service by dental health educators for the attainment of the highest possible desired level of dental health for all.

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DENTAL HEALTH WEEK IN NOVA SCOTIA

FEBRUARY 4 to 10, 1973

Mayor Walter Fitzgerald receives instruction in good dental practices after his endorsation of National Dental Health Week which was observed February 4 to 10. Assisting the mayor are, left-right, Mrs. Barbara Bennett, president of Nova Scotia Dental Nurses and Assistants Association, and Miss Burglind Blei, president of Nova Scotia Dental Hygienists' Association, while Dr. Douglas Eisner, president of Nova Scotia Dental Association and George Havlovic, vice-president of the Nova Scotia Dental Technicians Association, look on.

Dental Health Week was planned this year in conjunction with the Public Relations Committee of the Nova Scotia Dental Association, and adopted the theme "Plaque Free in '73".

The week commenced with a photo in the Halifax newspapers of the Mayor's endorsement of Dental Health Week in the presence of representatives from the Dental, Dental Hygienists, Dental Assistants and Dental Technicians Associations. Provincial poster and essay contests were announced in the elementary and high schools respectively, with attractive financial prizes. In addition, we embarked on a much considered project of alerting the local drug stores to stock dental aids which we recommended.

Prevention prevailed in excellent T.V. coverage during the entire week. In addition to the CDA's radio spots with Katherine MacKinnon (native Nova Scotian), there were five local T.V. appearances involving two dentists, and four dental hygienists. Slides, posters, films and anti-plaque enthusiasm got the preventive message across to the public.

"Plaque Free in '73" reached its climax on Saturday, February 10, when Action Plaque Control teams set up in three shopping centres in the Halifax-Dartmouth area. Below hugh banners revealing the slogan, each team which consisted of a dentist, dental hygienist and dental assistant, was ready to communicate. Approximately thirty people were involved in the plan and were prepared during two sessions on standardizing procedures before the big day. The films "Brushing and Flossing" and "Think About It" as well as cassette-slide tapes helped initiate the interest of parents, teenagers and children alike. The response was extremely good and volunteers sat down, had their plaque disclosed and then learned how to stay plaque-free at home. The armamentarium was kept simple to encourage home care: disclosing swabs, brushes, floss, tongue depressors, hand and disposable mouth mirrors, and flashlights. Manikins and models helped to alleviate sterility problems. Posters done by a local artist and pamphlets on plaque control were colorful aids.

The shopping centre idea was originated in a dental office one lunch hour by a super keen team: a dentist, dental hygienist and dental assistant; and the people here were ready for preventive dentistry last week. With more prevention practised in our dental offices, our schools and in the whole community, we might even make it a year round thing, as the theme suggests.

We want to do it again soon.

Glenda Butt, R.D.H.
Beth Cochrane, R.D.H.

. . . . . Vancouver, Canada's Pacific Paradise surrounded by beauty, can justly claim of offer all that is needed to make our Canadian Dental Hygienists' Association Convention a success.

CDHA CONVENTION '73.

October 14th to 17th, 1973

CONTINUING EDUCATION: PROJECTING TO THE FUTURE

Tentative Program

SUNDAY, October 14	
Afternoon, Evening	Registration — Hyatt House
Evening	CDA "Octoberfest" Reception - Hotel Vancouver
MONDAY, October 15	Hyatt House
Morning	Registration Opening Ceremony KEYNOTE SPEAKER — Mrs. Margaret Neylan, Director of Continuing Nursing Education, Associate Professor of Nursing, University of British Columbia. "Recognizing the Need" (Panel) — Moderator, Mrs. Margaret Neylan LUNCH (featuring West Coast Indian Food)
Afternoon	"Choice or Necessity" "Who's Responsibility"
Evening	Free
TUESDAY, October 16	Program with Canadian Dental Nurses and Assistants Association — Hotel Georgia
Morning	"Drug Seminar" — Sgt. Bill Chisholm, Saanich Police Department LUNCH
Afternoon	"The Role of the Health Professional in the Community" — Mr. Bill Mussell, Sociologist
Evening	Wine and Cheese Party
WEDNESDAY, October 17	Hyatt House
Morning	"Organization and Implementation" (Panel) — Moderator, Mrs. Joan S. Voris Reactor Session LUNCH
Afternoon	Continuing Education Workshops — Small groups with a leader and a recorder.

As dental hygienists we have been imbued with the concept of continuing our education throughout our professional careers. We are hopeful that Convention '73 will provide the "motivation and know-how" required to put this concept into action.

"Remember, there will be no strangers here . . . . only friends you haven't met before!"

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THE CANADIAN DENTAL HYGIENIST

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FALL 1973
VOLUME 7, NUMBER 2

cfde CANADIAN FUND FOR DENTAL EDUCATION

Dear Members:

The Canadian Fund for Dental Education was established in 1962 by the Canadian Dental Association in cooperation with members of the dental trade industry to provide financial assistance for . . .

* TRAINING OF TEACHERS
* ACCREDITATION OF GRADUATE AND POST GRADUATE PROGRAMS
* FACULTY GRANTS
* AUXILIARY SCHOLARSHIPS
* CONFERENCES
* TABLE CLINIC PROGRAMS

Last year dental hygiene students in the six schools of dental hygiene across Canada had the opportunity to receive $200.00 scholarships from the Canadian Fund for Dental Education. In addition, three graduate dental hygienists were awarded fellowships to continue their education. With the increasing costs of education, there is no doubt that these awards were appreciated and of significant advantage to these individuals.

The Fund is supported by contributions from business and industry, dental and dental auxiliary organizations, and personal contributions from the members of the dental health team. At the 1973 Meeting of the CDA Board of Governors, the Canadian Dental Hygienists Association was commended for their 1972 fund raising campaign which had resulted in contributions to the CFDE more than doubling.

We are now asking for your continuing support of this very worthwhile project. All contributions from dental hygientists are held in a special account for their benefit. To this fund is added interest on CDHA's trust fund of $3,500 plus an annual contribution by the Proctor and Gamble Company of $500 as well as donations by the provincial and local dental hygiene associations.

SEND IN YOUR CONTRIBUTIONS TODAY. WHAT BETTER WAY OF EXHIBITNG YOUR VITAL INTEREST IN THE DENTAL AND DENTAL HYGIENE PROFESSIONS AND THEIR FUTURE STRENGTH.

Yours sincerely,

Marjorie Weich

(MISS) MARJORIE J. WEICH
Immediate Past President
Canadian Dental Hygienists' Association

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PRESIDENT'S MESSAGE

"Whereas, ages ago in their quest for supernatural aid, the Greeks swore by Aesculapius, son of Appollo, god of health, and by Hygeia, goddess of health; and whereas, the Romans, in the Christian era placed themselves under the protection of Appollonia, whose help as Dentistry's patron saint, they besought, so now, do I, — humbly acknowledge my human limitations — in accepting this parchment of my Alma Mater, solemnly swear to render health services to those who seek my ministrations, hereby enjoining upon myself the sacred duty of teaching the public, particularly children and young people, by precept, lecture, and every other available mode of instruction, the value of dental health as a priceless possession; and further, bind myself by future study to broaden my knowledge that I may share with others such information in my special field as will tend toward the ideal of dental health sought by Dr. Alfred C. Fones, the founder of the profession of Dental Hygiene.

With this pledge inviolate, may it be granted me to enrich my life in the practice of my art, thus to worship God in the service of mankind."

For many years I have hung this code of ethics of the profession of dental hygiene in a prominent place where I have practiced. It represents the oath to which I subscribed upon graduation and is therefore related to a particular learning experience. Although Oaths are no longer acceptable in some parts of the world, the message appears to be one of universal significance. Framed in black with a narrow gold band, it presents a solemn appearance. Initially, it serves as a conversation piece. "Whereas, ages ago in their quest for supernatural aid" provokes much comment, for archaic language espousing ancient precepts in an easy target for merriment. Upon closer examination, it is truly a pretentious document, not in the sense of making a false show, but rather that of making claims to excellence and importance. The discerning patient soon comes to realize that we who hold ourselves out as dental hygienists take this code of ethics very seriously. I was initially attracted to a career in dental hygiene so as to "render health services to those who seek my ministrations", for service has always been of primary importance to me. A recent position in public health reminds of my "sacred duty of teaching the public, particularly children and young people". Our primary role in the area of preventive care promotes the importance of the "value of dental health as a priceless possession". In order to maintain competence, I must "bind myself by future study to broaden my knowledge that I may share with others such information in my special field as will tend toward the ideal of dental health". Our national convention this year was entirely devoted to the study of the importance of continuing education to the furture of the profession of dental hygiene. Pretentious, yes, for these are the claims of excellence and importance that we must carry before us at all times. Those of you serving in public health, private practice, insitutions, schools of dental hygiene, positions with governing bodies, each of you is quietly bearing this standard. In your daily task I commend to you the final paragraph of this code of ethics . . . "May it be granted me to enrich my life in the practice of my art, thus to worship God in the service of mankind".

SHERITA K. CLARK

EDITORIAL

Dental hygiene as a profession is in a rather unsettled position and the need for active participation by all dental hygienists in affairs of the professional association has become increasingly more apparent. Legislation that will relegate dental hygiene is being proposed and implemented, not only in Canada but throughout the world. This is happening at a time when the dental profession is organizing itself to face increasing public demands and dental hygiene must also be organizing itself as one of dentistry's most valuable auxiliaries.

Communication with government agencies, professional associations, unions, commercial and consumer groups but most of all within our own dental hygiene association, is the most valuable and effective vehicle for making our requirements for professional viability and survival a consideration in forthcoming legislation. This Journal is such a means of communication and it cannot survive without your participation. Contributors, correspondents, news reporters and associate editors are urgently required. There is a certain amount of work and self-discipline involved but it rewards itself in an almost automatic manner by providing continuing education, new connections and journalistic methods and techniques.

Please come forward and volunteer your assistance. Send in your articles and news, thoughts and criticisms, experiences and expectations. You cannot really afford to be only a passive reader and leave it to the few whose time is as valuable and whose personal problems are as real as yours.

HANS E. FRANZGROTE
EDITOR

GUEST EDITORIAL
IT'S A BIRD! . . . IT'S A PLANE! . . . IT'S DENTICARE!

Reprinted from Canadian Journal of Public Health, Vol. 64, No. 4, July-August, 1973.

It is ten years since the Hall Royal Commission on Health Services made, among its many recommendations for improving the health of Canadians, numerous sweeping and high priority suggestions for the development of a national dental care plan for children. Such plans have just recently been implemented for limited age groups in two provinces. And, programs will be initiated in one province in the fall of 1973 and in the fall of 1974 in another. Nearly all other provinces and territories will not be far behind, however, if the tremendous interest displayed this summer by these provinces in gathering data about anticipated costs and utilization rates, the appropriate phasing-in of age groups (immediate resources preclude universal child coverage), what services to provide and the type of personnel and setting best suited to provide them, is a valid indicator. While further detailed investigation would be required to support this contention, one cannot help but wonder if the current surge of activity bears any relationship to quick election promises already made in some provinces or about to be made in others. In spite of what the denture adhesive advertisements say, everyone knows you need good natural teeth to eat raw carrots, both the garden and political kind. This intense flurry of activity is reminiscent of those strutting and flapping rituals some bird species (the "academic summertime cuckoo" is one example and the "contractual moon-lighter" is another) go through prior to mating and is just as amusing. But of course, this is serious business — especially for the birds — and one shouldn't laugh. Better late than never.

Another reason for not laughing is that these dental health care planners are faced with a very great dilemma concerning which of several possible basic models for dental health care services delivery and payment to each province. At the risk of oversimplification, these plan in each province. At the risk of oversimplification, these models might be described by looking first at the services delivery component and then, the payment component. The delivery component involves two main aspects — type of personnel and location of service. Regarding personnel the use of dentists and their chairside auxiliaries or, in addition, the use of operating dental auxiliaries with duties beyond those now traditional in Canada and whether these auxiliaries should work independently or under the direct supervision of licensed dentists are some of the critical questions to be decided. The main point(s) of delivery of services — existing private dental offices, fixed or mobile clinics, or a combination of private and clinic offices — must be decided. Whether funding in a program should be fee-for-service or salary or some other payment mechanism and who should negotiate and administer these funding arrangements, need to be answered. None of these answers is easy because experience elsewhere with various combinations of factors is limited so that specific answers simply are not available. Indeed, the World Health Organization and the Division of Dental Health, U.S. Public Health Service are currently in the midst of a long term international collaborative study of dental manpower systems in relation to oral health status in seven countries outside of America to provide some answers on how the various factors interact in terms of total program effectiveness and efficiency. This information will not be available for some time and its eventual utility in a Canadian context is not known.

Differences in dental manpower supply, economics, geography and public attitudes among provinces support the ideas that there will be diversity in the form of the plans eventually reached and that a blind, massive transplant of another country's or province's program to a given province will not necessarily work as well as it appeared to in the original setting.

Based on our experience with Medicare and good common sense there are several general features which all provincial dental programs must contain. They must improve the dental health status of eligible children, and provide services of a high standard with broad geographic coverage. Portability between provinces of the schedule of services and age groups covered should be arranged. Prevention of dental disease for both individuals and groups must be primarily emphasized. Specific program goals should be set down so that program effectiveness can be evaluated over time. Critical shortages of dental manpower and fiscal resources for health make it mandatory that program efficiency — cost relative to program effectiveness — be strongly encouraged in program formulation. All of these programs will be tremendously expensive so it is important that mechanisms for the evaluation of program effectiveness and efficiency be built right into the program design at the outset. The adequacy of the personal dental services performed under the plan must be subject to evaluation by peer review or some other means.

Because of marked differences in design of the provincial children's dental programs mounted or announced so far it is essential that some group at the national level, or under national auspices, adopt the role with official sanction from the provinces, of coordinating, monitoring and data gathering for these anticipated different programs. Something along the lines of the WHO-DDH study previously mentioned (but prospective in nature) with the various provinces functioning as the separate countries is needed to identify, based on experience, relatively good and bad features for the eventual benefit of all provinces. A central coordinating agency cannot entirely prevent the danger that any province may get locked into a program which is subsequently shown to be ineffective and inefficient but it could help in the earlier identification of problems and suggest remedies based on the experience of others.

Although utilization of dental services by Canadians has apparently risen according to the latest 1967 federal estimates to 42 per cent for all Canadians and 58 per

cent for those 14 to 16 years of age, the dental care situation has not improved markedly over the past decade. Certainly, if anything, recent experience confirms the original thesis by Hall et al. that replacement of the present disorganized system for providing dental services to children by a more orderly, systematic way which is independent of social, economic and geographic barriers was essential. So these recent developments are encouraging and should be welcomed by all interested in public health and social welfare. The features and results of each varying provincial program should, however, be studied by a common approach.

D. W. Lewis

Un Oiseau . . . Un Avion . . . Les Soins Dentaires!

Extrait de la Revue Canadienne de Santé Publique Vol. 64 No. 4 juillet — aout. 1973.

Il y à dix ans que la Commission royale Hall, chargée d'étudier les servicessanté, faisait de nombreuses suggestions — révolutionnaires et prioritaires — quant à l'élaboration d'un programme de soins dentaires à l'intention des enfants. Ce sont des programmes de ce genre qui viennent d'être institués dans deux provinces pour des groupes d'âge donnés. Leur application est prévue pour l'automne 73 dans l'une de ces provinces et pour l'automne 74 dans l'autre. Les autres provinces ne resteront d'ailleurs pas en arrière bien longtemps, si l'on peut considérer comme un indice valable le très grand intérêt qu'elles ont manifesté cet été en réunissant des données sur les coûts et taux-d'utilisation anticipés, la sélection des groupes d'âge (les ressources actuelles ne permettant pas d'inclure tous les enfants), les services à fournir ainsi que sur le type de personnel et d'aménagements requis pour la fourniture de ces services. En l'absence de l'enquête détaillée qui serait nécessaire pour s'en assurer, on peut se demander pourtant si toute cette activité est la conséquence des promesses électorales hâtives qui ont été faites dans certaines provinces et qui sont sur le point de l'être dans d'autres. N'en déplaise aux annonceurs d'adhésif pour dentiers, tout le monde sait bien qu'il faut avoir de bonnes dents naturelles pour manger des carottes crues, qu'elles soient végétales ou politiques! Cette activité débordante évoque les attitudes et les battements d'aile de certains oiseaux (comme par exemple le "coucou universitaire estival" et le "cumulateur contractuel"), avant l'accouplement, et elle est tout aussi divertissante. C'est cependant sérieux — surtout pour les oiseaux — et il ne faut pas en rire. Mieux vaut tard que jamais.

Il faut d'autant moins en rire que les planificateurs se trouvent devant un grave dilemme quant aux modèles fondamentaux à choisir concernant la fourniture des services de soins dentaires et les modalités de paiement, dans chacune des provinces. Au risque d'être simpliste, on peut décrire ces modèles en considérant d'abord l'élément fourniture des services et ensuite le facteur paiement. Le premier comporte deux aspects principaux: le genre de personnel et l'emplacement des services. Du point de vue du personnel, il y à des questions critiques sur lesquelles il faudra se prononcer: utilisera-t-on les dentistes et leur aides actuels ou faudra-t-il leur adjoindre des auxiliaires dont les responsabilités dépasseraient les fonctions qui sont traditionnellement les leurs au Canada? Ces auxiliaires travailleront-ils indépendamment ou sous la surveillance directe de dentistes accrédités? Il faudra décider également des centres principaux de fourniture de ces services: cabinets dentaires privés existants, cliniques mobiles ou non, combination de cabinets privés et de cliniques publiques. Il faudra aussi déterminer si ce programme sera financé par le paiement d'honoraires, de salaires ou par d'autres moyens et savoir qui négociera et administrera ce financement. Il n'est facile de répondre à aucune de ces questions parce que les expériences faites à l'étranger avec différentes combinaisons de facteurs est limitée et qu'il n'existe pas de données précises.

Etant donné les différences du point de vue main-d'œuvre dentaire, économie, géographie et attitudes publiques entre les provinces, les programmes qui seront adoptés éventuellement seront sans doute variés: la transplantation aveugle et globale du régime d'un autre pays ou d'une autre province dans une province donnée ne donnerait sans doute pas d'aussi bons résultats que dans sa région d'origine.

Sur la base de notre expérience avec l'assurance santé et de toute évidence, il y à plusieurs caractéistiques générales qui devront être communes à tous les programmes dentaires provinciaus. Ils devront améliorer la santé dentaire des enfants éligibles et fournir des services de haute qualité avec large couverture géographique. Il faudra prévoir le transfert des services d'une province à l'autre et déterminer les groupes d'âge qui en seront les bénéficiaires. Il faudra insister avant tout sur la prévention des maladies dentaires, pour les individus comme pour les groupes. On devra déterminer les objectifs précis des programmes de façon à pouvoir juger éventuellement de leur efficacité. Vu la carence critique de main-d'œuvre dentaire et de ressources fiscales pour le domaine de la santé, il est impératif que l'efficacité des programmes — c'est-à-dire le rapport coût résultats — soit l'un des éléments déterminants de leur formulation. Comme tous ces programmes seront extrêmement coûteux, il est important que les mécanismes pour l'évaluation de leur efficacité soient incorporés à leur conception dès le départ. La valeur des services dentaires personnels rendus dans le cadre de ces programmes devra être évaluée par la profession dentaire ou par d'autres moyens.

A cause des différences marquées dans la conception des différents programmes dentaires provinciaux à l'intention des enfants — qu'ils soient déjà établis ou simplement annoncés — il est essentiel qu'un groupe au niveau national ou sous auspieces nationales se charge, avec l'assentiment des provinces, de coor-

donner et de contrôler les différents programmes prévus et d'en réunir les données. On a besoin d'une étude du genre de celle de l'OMSDDH (Mais faite en vue de l'avenir), étude qui traiterait les différentes provinces comme autant de pays indépendants, afin de déterminer, sur la base de l'expérience, les bonnes et les mauvaises caractéristiques de leurs programmes — relativement parlant —, ce dont les provinces bénéficieraient éventuellement. Une agence centrale de coordination ne pourra pas empêcher une province ou l'autre de se trouver aux prises avec un programme qui se serait révélé non valable, mais elle pourrait aider à déterminer rapidement les problèmes et leur suggérer des remèdes su la base de l'expérience des autres.

Bien que l'utilisation des services dentaires par les Canadiens, d'après les derniéres estimations fédérales de 1967, fait augmentée jusqu'à concurrence de 42 pour cent pour l'ensemble de la population et de 58 pour cent le groupe de 14 à 16 ans, la situation des soins dentaires ne s'est pas sensiblement améliorée dans les derniers dix ans. Il est évident que l'expérience récente confirme les conclusions de la thèse originale de Hall et de ses collaborateurs, indiquant qu'il était essentiel de remplacer la désorganisation actuelle par une méthode plus systématique de fourniture de services dentaires aux enfants qui écarterait les obstacles sociaux, économiques et géographiques. Les développements récents sont donc encourageants et tous ceux qui s'intéressent à la santé publique et au bien-être social devraient les accueillir favorablement. Il n'en reste pas moins qu'il faille une approche commune pour étudier les caractéristiques et les résultats de chacun des différents programmes provinciaux.

D. W. Lewis

MOVING?????

There are two things to be remembered if you are moving.

FIRST, and perhaps the most important is to inform us of your move. This is the ONLY sure way we have of keeping an up-to-date mailing list for the Journal, CDHA NEWS and other CDHA mailings.

SECOND, if you are moving from one province to another, please inform your provincial membership chairman prior to your move so that you may transfer your CDHA membership easily. She in turn will notify the membership chairman in the province to which you are moving.

If for some reason you are not sure of the membership chairman, you may send the request for transfer to the CDHA Membership Chairman, Mrs. Jo Gardner, who will notify the appropriate committee members. The form below may be used for change of address, name and/or membership transfer.

NAME .....

(If married, include maiden name and husband's initials.)

OLD ADDRESS .....

.....

NEW ADDRESS .....

.....

I am a member of the ..... Dental Hygienists' Association.

I am moving from ..... to ..... and wish

to transfer my membership to the provincial Dental Hygienists' Association in .....

Mail to: Your Provincial Membership Chairman

or: Mrs. Jo Gardner, Chairman
CDHA Membership Committee
1125 West 54th Avenue
Vancouver 14, B.C.

PRESIDENT'S REPORT 1972-1973

1. This year marks the 10th anniversary of the Canadian Dental Hygienists' Association and I feel particularly privileged to have served as President at a time when the profession has seen so much in the way of new demands and new challenges.
2. I wish to express to the CDHA and especially to the Board of Directors my sincere thanks for the honor of serving as President, for the hospitality and the many kindnesses extended while carrying out the duties of the office and for the help and encouragement received from so many sources during the year.
3. On behalf of the Convention Committee, I would like to welcome you to Vancouver and invite you to join us in the celebration of the significant growth and achievements which have occurred since the birth of our national organization ten years ago. The Convention Committee has been working diligently to achieve one of the best meetings ever and we trust that it will be enjoyable and rewarding for all.
4. During the 1972-73 term, the President has served as the official representative, as stated in the By-laws, for the purpose of advancing the objectives and policies of the Association. Directives as listed in the Duties of Officers and specifically the directives from the minutes of the last annual meeting were reviewed, discussed and completed accordingly.
5. Throughout the year, the President was extensively involved in the activities of the Executive Council, the Board of Directors and the Committees. Significant progress was achieved and is summarized in the respective reports.
6. In addition, the President is taking this opportunity to highlight some of the actions and innovations which hopefully have contributed to the continuing growth of our Association.

PUBLICATIONS

7. A manual "Structure and Function, Standing Rules and Policies" was compiled and distributed to all members of the Executive, Board of Directors, Committees and other interested persons.
8. Publication of a bimonthly newsletter commenced in September 1972. To date five issues have been published and circulated to all CDHA members, subscribers and other interested persons. Responses to this publication have been favourable.
9. Publication of the 1972 fall issue of the CDHA journal was suspended due to the resignation of the Editor.
10. The 1973 Spring Issue of the journal THE CANADIAN DENTAL HYGIENIST, was prepared, published and circulated in April.
11. A special thanks is extended to Mrs. Wilma Motley, Editor of the American Dental Hygienists' Association, for sharing her journalism knowledge and expertise with us.

CONVENTION

12. "Continuing Education: Directions '73" is the theme selected for the 10th Annual Convention to be held in Vancouver, B.C.

CANADIAN DENTAL ASSOCIATION

13. The CDHA has continued to work cooperatively with the CDA and is hopeful that all efforts will result in a more functional and effective liaison. A special thanks is extended to the members and staff of the CDA for their encouragement and support and for the kind invitations to attend meetings of importance to the dental hygiene profession.
14. **Conference on Continuing Education**
    The CDHA was officially represented by Mrs. Marnie Forgay at the Conference on Continuing Education. A summary report was published in the second issue of CDHA NEWS.
15. **Council on Auxiliary Services**
    The CDHA was represented by the President at the Council on Auxiliary Services Meeting, February 5 to 7, 1973. A report was prepared and submitted for presentation at this meeting. Mrs. Pat Johnson also attended as CDHA Liaison and prepared the summary report which was published in the fourth issue of CDHA NEWS.
16. CDHA was requested to submit to the CDA Executive Director a text on the effective utilization of the services of dental hygienists suitable for a cassette issue, for consideration by the Editor of the cassette program.
17. **Proposed Auxiliary Workshop**
    CDHA has indicated their interest to participate in the proposed auxiliary workshop and completed a questionnaire as requested. Recently, the President met with Dr. Ted Allison, Chairman of the Council on Health Care, to discuss CDHA's participation in this project.
18. **Council on Education**
    The CDHA was represented by Mrs. Joan Voris, Chairman of the Sub-committee on Education, at the Council on Education Meeting, April 30th to May 2nd, 1973. A report was prepared and submitted along with a letter listing several items for consideration. This report was acknowledged and received for information by the Council. A summary report of the meeting was prepared and published in the fifth issue of CDHA NEWS.
19. **Board of Governors Meeting and Annual Convention**
    The President will officially represent the CDHA at the Annual CDA Board of Governors and reference committee meetings. In addition, the President-elect has also been invited to attend. The President will represent the CDHA at the Opening Ceremonies of the CDA Annual Convention on October 14th, 1973.
20. **National Dental Health Week**
    The week of February 4th to 10th, 1973, was identified as National Dental Health Week in Canada. Participation and support by dental hygienists was commendable and a special thanks goes to all who joined with the CDA in drawing the public's atten-

tion to the importance of preventing dental disease and achieving good dental health.

CANADIAN FUND FOR DENTAL EDUCATION

21. The "October is CFDE Month" campaign was initiated in conjunction with the first issue of CDHA NEWS. Donations from dental hygienists more than doubled those from the previous year and a special thanks is extended to all those who contributed.
22. A request from the CFDE for criteria for scholarships for dental hygienists interested in furthering their education and teaching was received and directed to the Sub-committee on Education. Guidelines were developed, submitted and considered by the CFDE Board of Trustees. Hopefully these guidelines will be implemented in the future.
23. A special thank you has been extended to the CFDE for the awarding of six undergraduate scholarships and three graduate fellowships to dental hygienists.
24. CDHA approached the CFDE regarding financial assistance for a dental hygiene student table clinic program to be held in conjunction with the annual convention.

NATIONAL DENTAL EXAMINING BOARD OF CANADA

25. The CDHA has been corresponding with the NDEB with a view to establishing a definite proposal regarding certification of dental hygienists in Canada. At the request of the NDEB, CDHA reviewed the proposed amendments to the NDEB Charter and submitted comments and suggestions. A letter requesting CDHA's updated approval of the NDEB as the mechanism for certification of dental hygienists in Canada was received. CDHA's reply indicated that further discussion and direction from the Board of Directors would be necessary prior to the endorsement of a mechanism of this scope and nature.

CANADIAN DENTAL NURSES AND ASSISTANTS ASSOCIATION

26. The CDHA has continued to work cooperatively with the CDNAA and is hopeful that all efforts will result in a more functional and effective liaison.
27. The feasibility of jointly employing an Executive Secretary was discussed by the Presidents of both Associations and it was concluded that such a proposition was financially impossible for the CDNAA at this time.
28. A one-day joint program for dental assistants and dental hygienists has been planned for the 1973 Convention in conjunction with the CDNAA.
29. The CDHA and CDNAA exchanged newsletters and journals throughout the year.

HEALTH AND WELFARE CANADA

30. The CDHA has continued to work cooperatively with Health and Welfare Canada and is appreciative of the help and support received throughout the year.
31. Mrs. Sharon French, Consultant, Dental Hygiene, has been offered privileges by our Association similar to those offered by CDA to Dr. Tom Marsh, Consultant, Dentistry. She received the minutes of the Executive Meetings as well as all reports of the Association. In addition, she has been invited to attend the Board of Directors Meeting as an observer. A special thanks is extended to Sharon for her support and encouragement throughout the year.
32. **Proposed Coordinating Agency for Accreditation in the Health Fields**
    The CDHA prepared and submitted a brief to Dr. Maurice LeClair, Deputy Minister of Health and Welfare regarding the proposed coordinating agency for accreditation in the health fields. The brief was acknowledged and information received indicates that we will be kept informed as to further developments.
33. **Health Manpower Data Bank**
    Dialogue with Statistics Canada and the Health Manpower Directorate has been initiated with the view to including a survey of dental hygienists in the Health Manpower Data Bank. An invitation has been extended to Dr. Jawed Aziz, Senior Research Economist and other representatives, to present a brief outline the Health Manpower Data Bank at the Board of Directors Meeting.

NATIONAL CONFERENCE ON SCHOOL HEALTH

34. The CDHA was represented by President-elect Sherita Clark at the first National Conference on School Health, October 29th to 31st, 1973, in Ottawa. The summary report of the conference was published in the fourth issue of CDHA NEWS.

MUTUAL OF OMAHA

35. The President met with Mr. J. G. Hughson, Director of Marketing for Mutual of Omaha to discuss the progress of the CDHA's program with this company.

CANADIAN DENTAL SERVICE PLANS INCORPORATED

36. The President met with Mr. W. E. Jackson, Administrator for Canadian Dental Service Plans Inc., to discuss possible insurance programs for dental hygienists as well as types of registered pension and retirement savings plans available. A meeting with Mr. Jackson has been scheduled during the Annual Convention, and representatives from the CDHA, CDNAA, ODHA and ODNAA will be present to discuss a group insurance plan which will be of benefit to both dental assistants and dental hygienists.

COMMUNITY HEALTH CENTERS

37. The CDHA, being cognizant of the increasing interest in the community health center concept and being concerned with the incorporation of dental auxiliaries, has directed Mrs. Linda Zambolin, immediate Past President, to prepare a policy statement for Board approval.
38. Miss Donna Gunther, Chairman of the Community Dental Health Committee, represented the CDHA at a meeting to discuss the Community Health Care Concept of Delivery at the University of British Columbia in October.

PUBLICLY FUNDED DENTAL CARE PLANS

39. The CDHA, being cognizant of the development of publicly funded dental care plans and being concerned with the role of dental auxiliaries in such plans, has directed the Community Dental Health Committee to formulate criteria and develop

guidelines for distribution to dental associations and government agencies.

INTERNATIONAL COMMUNICATIONS

40. Journals, newsletter and other pertinent informational materials were exchanged with the British Dental Hygienists' Association, the American Dental Association, the American Dental Hygienists' Association and the Federation Dentaire Internationale.

AMERICAN DENTAL ASSOCIATION

41. The CDHA received an invitation to send a representative to the ADA Council on Journalism Dental Editors' Seminar.

AMERICAN DENTAL HYGIENISTS' ASSOCIATION

42. The CDHA has continued to work cooperatively with the American Dental Hygienists' Association and is hopeful that all efforts will result in a more functional and effective liaison.
43. The CDHA was officially represented by the President at the 49th Annual Session of the ADHA in San Francisco in October, 1972. In addition, Mrs. Jo Gardner and Mrs. Joan Voris attended and participated in the scientific program.
44. **Fourth International Symposium on Dental Hygiene** The CDHA was officially represented by President-elect Sherita Clark at the Fourth International Symposium on Dental Hygiene in Amsterdam in August. Mrs. Clark and Mrs. Noni Janke participated in table clinic presentations at this meeting.

VISITATIONS

45. A most important responsibility of the President was to represent the Association to its members and to strengthen liaisons with allied associations and interested agencies. The cross-Canada visitation in February proved to be a most valuable experience and provided the President with a better understanding of areas of interest and concern to our Association. A special thanks is extended to the Board of Directors for making this trip possible and to all those by whom I was warmly received and welcomed.

CONCLUSION

46. The need for a strong national organization has become even more apparent from my year's experience as President and from my travels and meetings across the country. The optimism and faith which inspired our Association's inauguration ten years ago are still very much in evidence. However, it seems we lack an important element of effectiveness within our Association and as a result, we also lack identity and direction.
47. The objectives of our Association as stated in the Constitution are "to cultivate, promote and sustain the art and science of dental hygiene, to maintain the honor and interests of the dental hygiene profession, to represent and safeguard the common interest of the members of the dental hygiene profession and to contribute toward the improvement of the health of the public". These objectives will only be realized when we as an Association eliminate our collective ineffectiveness through improved communication, continuity of function and purpose, qualified representation and increased professional awareness.
48. In summary, the future of our Association depends upon conscious purpose and ceaseless effort with the desire and will to identify and achieve long-range goals which will ultimately result in optimum dental health for all Canadians.

ACKNOWLEDGEMENTS

49. I would like to acknowledge the Board of Directors and the Committee Chairmen for their contributions to the activities of the Association and for their continuing support throughout the year. In addition, I would like to acknowledge Sharon French and Marnie Forgay for their assistance. Sincere appreciation is also extended to the University of British Columbia, especially Dean S. Wah Leung, Dr. D. J. Yeo and Chris Mewis. A special thank you is extended to June Coe and Carol Kline whose diligence and dedication have made the year's activities most successful and rewarding. Finally, I would like to acknowledge the invaluable advice and assistance of Joan Voris and extend to her my deep and sincere appreciation for her dedication and friendship.

Respectfully submitted,
MARJORIE J. WEICH
President 1972-1973

In Memoriam

Frances (Frankie) Patricia Shail, 1972 graduate of the School of Dental Hygiene, University of Manitoba. Frankie died suddenly in a highway accident, October 22, 1973, near her home in Abbotsford, B.C. Frankie was born in Saskatchewan and lived there until attending the University of Manitoba. In her undergraduate years, she was a Junior member of the Manitoba and Canadian Dental Hygienists' Association. Upon her move to British Columbia, Frankie became an active BCDHA/CDHA member. She worked in private practice in Abbotsford until August of this year and had recently joined the Boundary Health Unit, working as a public health dental hygienist under the direction of Dr. J. Conchie. Frankie is survived by her parents who reside at #7-32855 Marshall Road, Abbotsford, B.C.

CONTINUING EDUCATION*

MARGARET S. NEYLAN, B.Sc., M.A.

Mrs. Neylan is the Director of Continuing Nursing Education and an Associate Professor of Nursing at the University of B.C.

Health care abounds with cliches, fine sounding words frequently used in articles and addresses on important matters on ceremonial occasions. They require an enormous investment of talent, time and energy to develop a realistic programme of action. These cliches include 'quality health care', 'health care team', 'independent learning' and 'continuing education'. It is probable that rhetoric has served its purpose in developing a philosophy of health care which formed the background for reports such as the Hastings report on community health centres[1]. By way of illustration, I quote a few paragraphs from this report.

> 'The emphasis must be on high quality initial and continuing care for meeting the health needs of individuals and families. There must be a balance in services among health promotion and prevention, diagnosis and treatment and rehabilitation.'
>
> 'There must also be provision for dealing with urgent problems. All services must meet accepted, current and system wide standards of quality.'
>
> 'The community health centre can only be effective if it is a mutually acceptable partnership of the members of the community and the members of the health care team.'
>
> 'The educational institutions and the health services system must co-ordinate the planning and provision of continuing education programmes.'

The purpose of this address is to sort out some of the cliches and fine sounding words about education for the health professions in order to clarify basic issues, to articulate problems, and to mention the current trends in continuing education in the health sciences.

Continuing education has been defined in a UNESCO report as a process whereby persons who no longer attend school on a regular or full-time basis undertake sequential and organized activities with a conscious intention to bringing about changes in information, knowledge, understanding or skill, appreciation and attitudes or for the purpose of identifying and solving personal or community programmes. Key words used in discussing continuing education in the seventies are 'necessary', 'lifelong', 'integrated'. Three important premises of adult or continuing education are that

1. adults require active involvement in all phases of the learning process: identifying learning needs, selecting and arranging learning experiences, participating in the learning process, evaluating outcomes,
2. continuing education is concerned not only with intellectual development of the individual but also with her/his command of occupational skills; not only with personal needs and problems but with civic needs and problems,
3. adult education agencies are primarily concerned with systematic learning but must not ignore the value of non formal or real life learning.

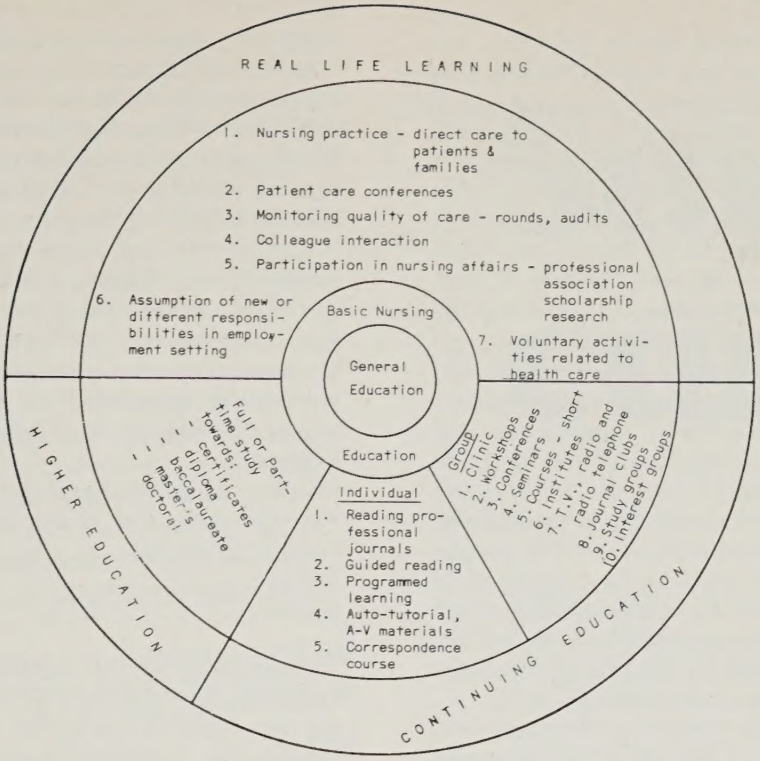
The general philosophy of education in modern society is well described in 'Learning To Be', a UNESCO publication reporting the work of a committee chaired by Edgar Faure[2]. I commend it to you for thoughtful study. The importance of learning throughout the life cycle in a society that fosters and rewards the results of activity is well described in this report. The need for the recognition of this continuum in deed as well as in words is stressed. The implications for the individual, for government, educational institutions and employing agencies are clear. All are required to move continuing education from its present marginal position to one of equal importance to the education of children and basic post-secondary and advanced preparation for employment and participation in society. The report of the Third International Conference on Continuing Education in Tokyo 1973[3] documents the rather minimal progress to date on an international scale. A few countries however, do report an increase in governmental allocation to continuing education. One or two countries indicate that an effort is being made to integrate continuing education into the system on a sound organizational and fiscal basis.

You may well say, what have these remarks to do with us? In response, I should like to point out that the marginal position of continuing education means that at the present time almost the entire burden for developing programmes of continuing education rests with the individual. Individuals who marshal themselves to act collectively through an association or employing agency can usually stimulate the educational institutions to respond especially if some funds are provided. The present state of affairs is a logical outcome of a system where government funds are allocated for full-time students and continuing education is supported only if funds are available. For instance, there is considerable variation in Canadian universities — from one province which provides an operating budget with some monies for innovation and research, to others where personnel charged with responsibilities for continuing education must recover salary for themselves and their staff through fee revenue. Not only does the latter situation foster insecurity, it severely curtails innovation and research which could lead to more effectiveness or efficiency.

To identify the relationship of 'continuing' to other forms of education, I ask you to consider the Educational Model for the Nursing Profession developed at the University of British Columbia School of Nursing.

Individuals enter nursing by way of general education and basic nursing education which is offered in universities, colleges, institutes of technology and hospitals. Subsequent to entry into practice, each nurse is expected to continue to learn in three major forms: higher education including degrees, diploma and certificate programmes; real life learning including practice, patient care conferences, colleague interaction,

*Keynote Address presented at the Annual Convention of the Canadian Dental Hygienists' Association, October 1973.



participation in nursing affairs, etc.; and continuing education which subdivides into individual methods such as reading, programmed learning and group methods such as courses, study groups, conferences, etc.

It is important to recognize that the model does not include references to the learning needs of nurses in their personal, familial civic roles. Nor does it take into account nurses who wish to change occupational roles. The divisions in the outer ring of the model do not denote that individuals pursue only one form of education at a time. The contrary is true; that is, there is value in close integration of the learning activities of the three forms.

The distinctive characteristics of real life learning are the intention of the individual to learn, and the receptiveness of the environment to change. The distinctive feature of higher education is sequential, highly organized learning to prepare individuals for specialized roles and responsibilities. Continuing education in contrast has a moderate degree of organization, is flexible, responsible to current learning needs of individuals or groups and is designed to enable individuals to maintain competence and increase effectiveness and efficiency in present role performance. In my opinion it is crucial that the distinctiveness of these forms be clearly recognized. I hope that this educational model for nursing will stimulate discussion and clarify issues in continuing education for you. Perhaps an outcome of this convention will be a similar model for dental hygienists.

The remainder of my address will concern itself with organization and administration of continuing education in the health sciences by answering the familiar questions:

1. Who is responsible for organizing programmes of continuing education?

The individual is responsible for allocating time and energy — both scarce resources for active professionals. In addition, in our present system, she/he will be expected to pay course fees which cover immediate course costs such as instructors, publicity, learning resources, etc. The employer is responsible at least for providing a working environment that stimulates curiosity and supports the adoption of new learning. In some instances employers contribute some time and money. Educational institutions are responsible for organizing and administering the programmes. Professional associations serve a 'broker' function by representing the collective views of their group to educational institutions, employers and government. The number of responsible parties involved makes co-ordination imperative if the frustration of the 'over-educated, under-utilized' syndrome is to be avoided.

2. What is the relationship between re-licensure and continuing education?

In response to this question it is important to recognize the urgency of the public demand that professionals maintain competence in the delivery of services to individuals and their families. It is generally agreed that the explosion of knowledge and speed of technological change make it necessary for the individual professional to continue to learn. The logical next step to develop methods to measure competence in practice at that point where the people received service was overlooked. Instead, there has been a marked progression towards requiring a certain amount of participation in organized learning activities as a condition of re-licensure.

The difficulties of implementing this requirement and thus ensuring that each individual does indeed

maintain competence have been grossly underestimated. The first obstacle is human nature. Like the proverbial horse and water, adults can be required to attend courses, but not necessarily to learn. Even if they cannot escape some learning in the process of collecting 'credits' or 'hours' or 'learning units', it is imperative that effective learning for a professional be a continuous voluntary activity not limited to one's annual 'dose' of education. A second obstacle is concerned with the extreme difficulties of ensuring the relevance of a course of study for each individual practitioner. Their skills and knowledge requirements vary according to initial preparation, practice setting and individual abilities such as curiosity, intelligence and energy. In jurisdictions where such legislation has been enacted, there is a tremendous increase in available courses with limited attention to relevance, accessibility of appropriate learning resources, etc. This energy might better have been directed to the statement of specific, measurable outcome standards against which the performance of an individual could be assessed and corrective learning prescribed. In this process problem oriented records have an important role to play.

Perhaps dental hygienists observing the lemming-like trend towards requiring participation in continuing education as a condition of re-licensure in the other health professions and occupations can benefit from their experience by making this convention the starting point for the development and implementation of standards for its members.

3. Who are the learners?

From the discussion of the philosophy and purposes of continuing education in a modern society, it is obvious that every individual needs to be a continuing learner. That it is more imperative for individuals who provide a service for the public is generally recognized. Opportunities for learning are as important for the teacher and administrator as for the practitioner. It is estimated that there are six hundred non-practicing dental hygientists in Canada. They constitute a potential source of people power for evolving government plans for dental health. Continuing education may be that bridge for their return to full or part-time practice to help meet public demands for more and better dental care.

4. Who are the teachers?

The variety of learning needs of practitioners is immense due to the interface among the health professions and between the professions and the basic sciences and applied technologies. In the selection of teachers for continuing education activities, two criteria are important — expertise in the learning task or content, and the ability to help adults learn.

5. Who sets standards for quality and content of programmes?

This question is best resolved by ensuring in-put from interested parties: dental hygienists, dentists, educators, dental hygienists' association, government consultants and consumers.

6. What are the real costs?

David A. A. Stager has described an approach to answering this question in The Economic Council of Canada's report on Canadian Higher Education in the 70's.[4] In his estimation of costs for continuing education for selected professions in Canada in 1968, he takes into account the following factors: foregone earnings, travel costs, room costs and instruction costs. An approximation of the number of practicing dental hygienists in Canada is 860 — an average income is $35 per diem. If it is assumed that (a) dental hygienists work five days per week (b) each hygienist requires ten days or 60 hours of continuing education per year (c) the cost of instruction is $25 per day (d) the average cost of travel is $100 (e) the average cost of room is $20, then the real costs of continuing education for dental hygienists as shown below is $984 for one hygienist or $846,240 for 860 hygienists.

Number of dental hygienists	860
Average salary loss (2 weeks)	$350
Tuition (2 weeks)	$250
Travel	$100
Room	$284
	$984

Neglected in this estimation are the costs of establishing and circulating a suitable reservoir of learning resources such as books, journals, audiotapes, films, video-tapes, teaching machines, programed learning materials, models, etc.

7. Who is responsible for meeting costs?

The four sources of revenue are governments, individual hygienists, employing dentists and private sources such as the professional association, foundations, etc. If the UNESCO recommendations were implemented, continuing learners would pay the same proportion of tuition costs as do other post-secondary students. Recent provincial studies of higher education report wide variation in this proportion for undergraduates in various faculties and among post-secondary educational institutions. If dental hygienists continue to be reimbursed on a per diem basis, the rate per day needs to take into account so-called fringe benefits including continuing education. It is encouraging to note that one health profession in British Columbia has negotiated an arrangement with the government whereby a fixed percentage of annual income is placed into a special account for educational purposes. The present situation for most health professionals is that the individual pays the tuition fee which is budgeted to cover direct costs of instruction. If the individual is employed she/he may recover some portion of total cost from the employer or special government grants.

8. What are the problems?

The major *educational* problem in continuing education is the lack of standards of health care by which to measure performance of individual professionals. A second serious educational problem is the lack of accessible learning resources in most professions.

The *administrative* problems of continuing education into the educational continuum of health professionals are organizational and fiscal.

The *human* problem for each professional is to commit energy and time to life-long learning. In my ex-

perience most health professionals respond positively and actively when appropriate opportunities for learning are accessible to them in or close to the community in which they reside. Studies of adult learners clearly show that marriage and children are not deterrents to participation when learning opportunities are accessible and when the work setting fosters learning.

9. What are the trends in continuing education?

There is an increased

understanding of continuing education as an integral sector of the educational continuum

interest in continued learning by the professions

interest in developing a full spectrum of learning opportunities rather than relying on short courses alone

demand for continuing education opportunities as a result of public demand and professional commitment

demand for short, intensive clinical courses for individuals who are undertaking expanded roles

opportunities for interprofessional or shared learning

opportunity for health professionals to have advanced training in adult education

During the panel presentation some of these trends will be elaborated upon and others will be the subject of questions and comments from the delegates.

In summary, continuing education is that process whereby persons who no longer attend school on a regular or full-time basis undertake sequential and organized activities with the conscious intention of bringing about changes in information, knowledge and skills. It is distinctive from and complementary to real life learning and higher education, other avenues of learning for the adult. In modern society it is essential that continuing education become an integral part of the educational continuum and that it receive the organizational and fiscal support to fulfill its purpose of helping adults cope effectively with responsibilities as workers as well as family and community members.

The maintenance of competence and pursuit of excellence in the health professions and occupations can best be achieved by the development of standards of health care at the point of delivery to health care. Measurement of the performance of individual practitioners against the pre-determined standards would identify learning needs for individualized corrective programmes of continuing education.

May I wish you exciting, fruitful deliberations at this convention and success in implementing your decisions and plans for furthering the education of dental hygienists in Canada.

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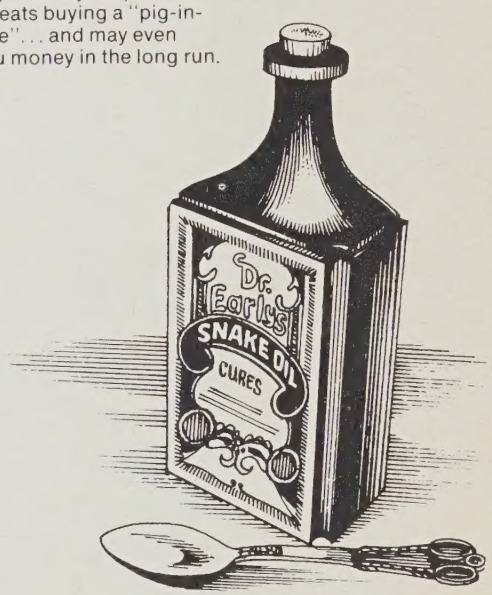
Sure cure?

Ever think of the risks you take to "save a buck" on mail-order medicines... even the so-called "approved" ones? Could be these products measure up to your expectations of what's good for your patients. Then again, they may not be quite the "sure cure" they're "quacked" up to be.

Let's be honest. The well-being of your patient, as well as your professional reputation rely a great deal on the dependability of the products you use. That's why you're better off to deal with an established company like Denco... with a qualified reputation for providing a full line of readily available dental products, backed by warranties to protect you and your practice.

Beats buying a "pig-in-the-poke"... and may even save you money in the long run.



DENCO

The Dental Company
of Canada Limited

CONVENTION '73

RECORD ANNUAL SESSION HIGHLIGHTS YEAR . . .

CDHA PRESIDENTS: PAST, PRESENT AND FUTURE

Left to right: Jo Gardner ('67-'68), Pat Johnson ('69-'70), Marjorie Weich ('72-'73), Sherita Clark ('73-'74), Dixie Scoles ('65-'66), Sharon French ('70-'71).

A record-breaking 235 dental hygienists registered for the 10th Annual Session of the Canadian Dental Hygienists' Association in Vancouver, October 14th to 17th, 1973. At the Opening Session, Mrs. Margaret Neylan gave the keynote address which set the overall stage for the theme of the scientific program, "Continuing Education: Directions '73". In the ensuing three days, well-known speakers and panelists from Canada and the United States further developed this topic through a variety of presentations. Attendance at all sessions demonstrated the interest dental hygienists have in securing this type of information and it is hoped that much of the knowledge acquired will be utilized and put into action at the provincial level.

New innovations and ideas always make a meeting more exciting and the 1973 Annual Session boasts several "firsts".

* The Delegates' Orientation provided an opportunity for the members of the Executive Council and delegates to the Board of Directors to review the Agenda Book and to acquaint themselves with the business to be presented at the Annual Meeting.
* Dental hygienists and guests celebrated the 10th birthday of our Association at a luncheon complete with balloons and birthday cake. Guest speaker Dr. Ross Upton highlighted some of the activities which have contributed to the significant growth and achievements of our Association over the past decade and acknowledged the past presidents and ten-year members.
* Members of the CDHA and the CDNAA participated in an excellent joint educational and social session which featured table clinic presentations and sociological lectures of interest to all dental auxiliaries.
* Convention registrants had the opportunity to attend a mini-continuing education course during the Lunch and Learn Session where leaders guided round table discussions on a variety of current topics of interest to dental hygienists.
* The CDHA/Provincial Workshop provided an opportunity for the exchange of ideas and information on the provincial and national level.

Convention Co-chairmen, Jo Gardner and Carol Kline, and the many members who assisted them in organizing this Annual Session are to be congratulated. Their efforts were greatly appreciated by all the CDHA members and guests who were able to attend the meeting.

The 1973 Convention provided dental hygienists in attendance with current information relating to continuing education and opportunities to exchange ideas, renew friendships and make new acquaintances.

Right: President Marjorie Weich relaxes with Joan Voris, Chairman of the sub-committee on education, and President-elect Sherita Clark.

Left: CDA President, Dr. David Peters, chats with Convention Co-chairman, Carol Kline and Jo Gardner and President Marjorie Weich.

CDHA honors President Marjorie Weich.

Exchanging ideas: Bev Nichol (CDA), Joan Voris, CDNAA President-elect Elizabeth Purchase.

Visiting during President's Reception: Jan Costigane, Pat Johnson, Dr. J. McLean.

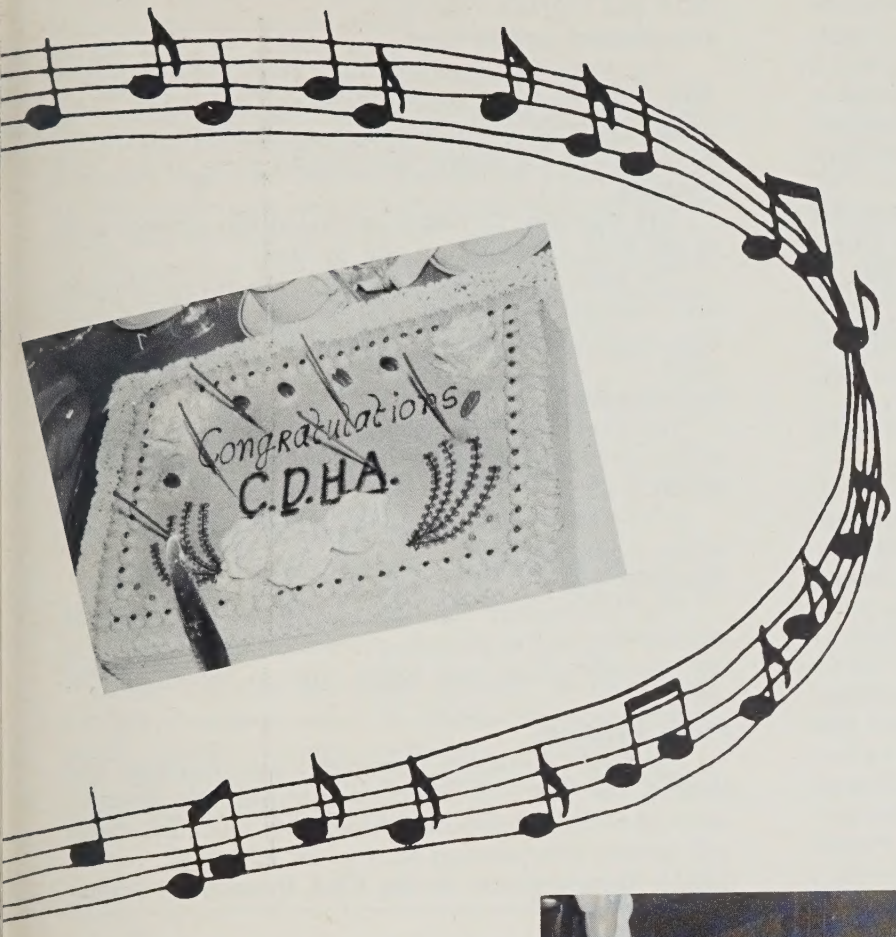
CDHA CELEBRATES ITS 10TH

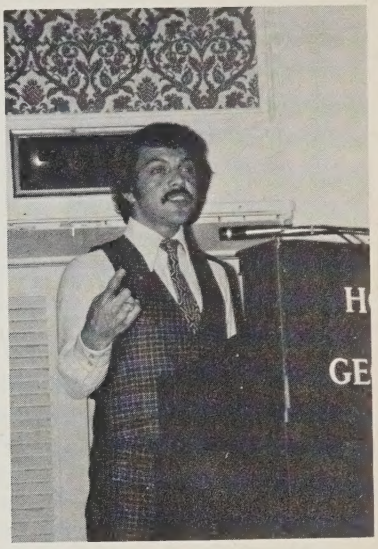
Keynote Speaker Margaret Neylan is thanked by Sherita Clark.

Birthday Party Luncheon: Pat Johnson, Jo Gardner, Lillian McKittrick, Dr. Ross Upton.

PHOTOS: DR. W. SUSSEL
LEONA SPARROW

Scientific Program Speaker: Martha Fales.





CDHA/CDNAA Joint Session: Guest Speaker Bill Mussell

Enjoying wine and cheese: Sharon Aitken, June and Ted Coe, Norma Wells.

Door Prize Galore: Fran Workman and lucky winner.

vention participants Norma Wells and Sheila ple visit with Dr. J. McCutcheon.

Hospitality Plus.

CDHA TRANSACTIONS 1973

The CDHA Board of Directors convened for the 10th Annual Meeting, October 18 and 19, 1973 in Vancouver, B.C. Members of the Board present were: Marjorie Weich, President; Sherita Clark, President-elect; June Coe, Secretary; Carol Kline, Treasurer; Debra Johnstone, Peggy O'Brien, B.C. Delegates; Suzanne MacLellan, Alberta Delegate; Noel Selinger, Saskatchewan Delegate; Janet Wilson, Manitoba Delegate; Pat Johnson, Roberta Atkins, Jane Costigane, Ontario Delegates; Valerie Tod, Quebec Delegate; Burglind Gregg, Nova Scotia Delegate; Rosalyn Froehlich, P.E.I. Delegate.

Also in attendance were: Jo Gardner, Membership Committee Chairman; Jean Haw, Constitution Committee Chairman, Joan Voris, Sub-committee on Education Chairman. Observers included Dr. David Peters, CDA President; Elizabeth Purchase, CDNAA President; Sharon French, Health and Welfare Canada; Joan Conklin, Auxiliary Education Coordinator for B.C.; Sharon Aitken, QDHA President. Margaret MacLean acted as Parliamentarian.

The lengthy agenda was discussed and the following summary highlights some of the action taken during this meeting. The complete agenda book and the minutes are on file with members of the Board of Directors, committee chairmen, and presidents and secretaries of the constituent associations.

Permanent Headquarters

The Board, cognizant of the need for the establishment of permanent headquarters, has directed the Executive Council to appoint a search committee to investigate and make recommendations regarding the establishment of such headquarters. In addition, the Executive Council will indicate to the CDA Building Committee, the continuing interest of the CDHA in the possibility of securing space in the proposed CDA headquarters building in Ottawa.

Executive Secretary

The Executive Council has been directed to appoint a committee to investigate and develop terms of reference for the employment of an Executive Secretary.

Long-Range Planning Committee

A Long-range Planning Committee has been established under the chairmanship of Marjorie Weich to investigate and assess the strengths and weaknesses of the CDHA and to make recommendations for more efficient and effective operation.

Canadian Fund for Dental Education

The Board of Directors approved an annual donation to the Canadian Fund for Dental Education based on $.50 per active member as of June 1st of each year.

International Meetings

The Executive Council has been directed to appoint a liaison committee to work cooperatively with other dental hygiene associations in the development of international meetings.

Community Health Centers

The Board of Directors approved the concept of the relevance of the Community Health Center as a means of providing high quality dental care to a greater number of people.

A reaction report to the Report of the Community Health Center Project was prepared and submitted by Immediate Past President, Linda Zambolin. This report will be reviewed and upon Board approval, will be circulated to all health ministers, heads of government, CDA and CDNAA officials.

Constitution and By-Laws

The proposed amendments to the CDHA Constitution and By-laws were discussed but have been deferred until the next annual meeting as they were not circulated to the Board two months prior to the 1973 Meeting.

The Board of Directors approved the amendments to the P.E.I. Constitution and By-laws.

The Board of Directors expressed its appreciation to Jean Haw for her contributions and activities as Chairman of the Constitution Committee for the past two years.

Incorporation

The Executive Council has been directed to commence proceedings for the incorporation of the CDHA.

CDHA News

CDHA NEWS was approved as an official publication of the Association.

Nominations

The Nominations Slate was incomplete at the time of the meeting and as a result, officers for the 1973-74 term will be elected by mail ballot prior to November 30, 1973

Public Relations

The Public Relations Committee was dissolved and instead, the Board of Directors approved the appointment of a Public Relations Officer. Mrs. Linda Zambolin will assume this position for the 1973-74 term.

CDHA Representative to the CDA Council on Education

The Chairman of the Sub-committee on Education will be the official representative to the CDA Council on Education and will also represent the CDHA at any conferences and/or meetings pertaining to dental hygiene education.

CDHA Conference on Dental Hygiene Program Development

The Board of Directors approved the development of plans for a conference on dental hygiene program development to be held within the next year.

CDHA Workshop for Clinical Dental Hygiene Educators

The Board of Directors approved the development of plans for a workshop for clinical dental hygiene educators to be held within the next year.

Student Table Clinic Program

The Board of Directors agreed to support the development of a student table clinic program to be held in conjunction with the Annual Convention.

National Certification of Dental Hygienists

Communication with the National Dental Examining Board of Canada is to be continued and a proposal for

national certification of dental hygienists with appropriate CDHA representation and implementation procedures is to be presented to the NDEB for consideration.

In addition, the Sub-committee on Education has been directed to proceed with the development of a proposal for national certification.

Dental Health Week

The Community Dental Health Committee has been directed to work cooperatively with the CDA Public Relations Officer in the development and promotion of National Dental Health Week.

Health Manpower Data Bank

Sharon French, Health and Welfare Canada, and John Moran, Statistics Canada, presented a brief outline of the Health Manpower Data Bank. The Board of Directors approved the development of a national survey of dental hygienists in Canada for inclusion in the bank, and established a special committee chaired by Pat Johnson and composed of one representative from each province to work cooperatively with representatives from the Health Manpower Data Bank.

CDHA Representative to CDA Council on Health Care

At the 1973 Meeting, of the CDA Board of Governors approved non-voting representation from the CDHA and CDNAA on the Council on Health Care. Marjorie Weich has been appointed as CDHA representative for a two-year term.

CDA Workshop on Auxiliaries

The CDHA has been requested to submit names of representatives to the CDA Workshop on Auxiliaries to be held in January, 1974.

Insurance

Roberta Atkins has been directed to investigate possible insurance plans for CDHA members which would include income protection, extended health care, life insurance, malpractice insurance, retirement savings and pension plans.

TO SUPPLEMENT OR NOT

Dispatch: Health and Welfare, Canada

Canadians purchase approximately 40 million dollars worth of vitamin and mineral products each year.

Perhaps you wonder

- why there are so many different products on the market.
- what are vitamins and minerals?
- if you or other members of your family need a vitamin and mineral supplement.

VITAMINS is a general term for a number of unrelated chemical substances (nutrients) occurring naturally in various foods. They are necessary for the normal functioning of the human body but are not manufactured by the body. An insufficient intake of vitamins may result in disease or deficiency states.

Vitamins were discovered and given alphabetical letters by scientists during the early part of this century. Today some vitamins are still commonly referred to by letter however as their chemical structures were determined they were assigned chemical names which are becoming better known.

The quantity of a vitamin present in a product is expressed as milligrams (mg.), micrograms (mcg.) or International Units (I.U.). The International Unit is a measurement of biological activity.

MINERALS occur naturally in foods. They too are necessary for the normal functioning of the body. The quantity of a mineral present in a drug is usually stated in milligrams (mg.).

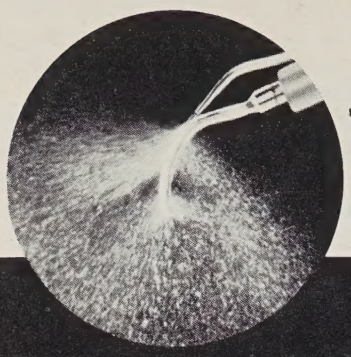
Healthy Canadians who eat a variety of foods as recommended by Canada's Food Guide will obtain all the vitamins (with possibly the exception of vitamin D), minerals and other nutrients essential for their health and well-being. A well balanced diet can be selected from foods commonly available in Canada (see Table 1 for daily nutrient intakes as recommended by the department of National Health and Welfare for moderately active Canadians).

Vitamin D — most adults obtain enough of it from their seasonal outdoors exposure to sunshine. However people living in northern regions with limited sunshine, infants, growing children, pregnant and nursing women and elderly persons confined indoors can obtain their quota by consuming milk with added Vitamin D (see Dispatch No. 2). A vitamin D. supplement may be necessary for persons in one of the above groups who are not using Vitamin D. fortified milk.

Vitamin and mineral supplements may be required
— during growth spurts, pregnancy, lactation, illness when the appetite is poor, or where by choice, circumstance or dislike of certain food groups, a normal diet is not consumed.
— by young people who take to the road. They would be well advised to pack a vitamin supplement in their knapsack to compensate for problems in selecting proper foods while travelling.
— by those whose diets consist mainly of hot dogs, hamburgs, chips and soft drinks and who need supplementation to ensure adequate nutrient intake.
— by weight watchers on a low calorie reducing diet who may also find it difficult to maintain adequate nutrient intake while their amount of food is limited.

Vitamin and mineral supplements are classified as drugs and are governed by legal requirements set forth in the Food and Drugs Act and Regulations.

- These products must comply with the general requirements for drugs including purity, potency, satisfactory manufacturing facilities and controls, claims, labelling and advertising.
- In addition special regulations prohibit the use of testimonials in advertising for vitamin or mineral supplements or the giving of assurance or guarantees of any kind with respect to results obtainable from taking these products.
- Advertising guidelines for radio and television ads for children's vitamin products were brought into effect in June 1972. Their intent is to lessen the possibility of developing drug taking habits in young children and to prevent promotion or purchase of drug products on the basis of premiums offered or recommendation by well



The Dentsply®-Cavitron® instrument tip moves in a unique *elliptical* pattern.

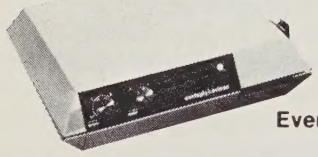
The activated instrument tip of the Dentsply-Cavitron Unit is photographed under high magnification to show the elliptical tip pattern which occurs 25,000 times a second.

One more reason why the Dentsply-Cavitron Unit is so easy on your patient and you.

You can remove calculus with a straight line, back-and-forth motion or with an elliptical motion. Which is gentler on the patient and easier on you?

The elliptical motion. Why? Because it covers a greater area of tooth surface in a given unit of time. And because the elliptical motion tends to *deflect* the impact force whereas the straight line motion tends to concentrate it.

The Dentsply-Cavitron "660" and "1010" Ultrasonic Dental Units.



This basic concept governs the tip pattern of every Dentsply-Cavitron prophylaxis insert. Another advantage is the increased efficiency with which the water coolant is transported to the point of working contact. An extra margin of safety for you—a greater promise of comfort for your patient.

The Dentsply-Cavitron Unit . . . a "must" investment in well over 40,000 dental offices and should be in your office!

Even the most minute detail has been carefully thought through.

UL These units are listed by Underwriters' Laboratories, Inc and CSA Testing Laboratories

DENTSPLY® Equipment

Dentsply International, York, Pennsylvania

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known personalities or cartoon characters rather than health considerations.

• The manufacturer must also determine the period of time that his product will contain the amount of vitamin(s) stated on the label (potency) and label the product with an expiry date which falls within this period.

Whenever you purchase a vitamin supplement
— check the expiry date on the label and if the product is out of date bring this to the attention of the pharmacist or clerk.
— buy a product with an expiry date sufficiently in the future so that you will have used up most of the quantity before the time has expired.
— and it is kept in your home under normal conditions and protected from excessive heat, light, air or moisture, it is not necessary to discard the contents as soon as the expiry date is reached. Most manufacturers ensure that their products will have full labelled potency for several months beyond the stated expiry date to compensate for any adverse storage conditions or handling which may take place somewhere along the distribution chain between manufacturer and consumer.

Other regulations specify minimum amounts of specific vitamins and minerals which must be incorporated in products containing them. This ensures that a product contains sufficient quantity of a nutrient to be useful as a supplement.

• Lower minimums are given for products recommended for use by children under six yers of age.

• Prior to implementation of these regulations it was not uncommon to find products available listing a whole alphabet of vitamins and minerals, often present in quantities too minute to be of any significance and many of which had no known role in human nutrition.

The regulations also specify maximum amounts
— in order to prevent the adertisement and indiscriminate sale of products with massive doses of vitamins on the premise that if a small quantity is beneficial the benefit is multiplied with an even greater quantity
— so that products intended for self-medication and usually purchased without a doctor's recommendation will not pose any hazard to health when taken as directed on the label.

However it is recognized that diseases or deficiency states do exist where higher intakes of specific vitamins may be necessary. Therefore the regulations permit the over-the-counter sale of products containing more than the maximum levels provided they are prominently labelled For Therapeutic Use Only.

Vitamin supplements carrying this cautionary statement should not be purchased by consumers unless they have been recommended or prescribed by their physicians.

An excess can be harmful.

Before making a decision to buy a vitamin and/or mineral supplement for yourself or your family assess your eating habits.

• Decide if your diet is well balanced and made up of a variety of foods. If so it is unlikely that you will need supplements. You may just be wasting your money if you purchase them.

• If you are already consuming a high quantity of Vitamin A or D in your diet because of unusual food preferences, dieting, or some other reason you may exceed healthful limits by adding a supplement and do more harm than good.

• If on the other hand it is evident that your normal diet is deficient in some nutrients it would be wise to add a vitamin and/or mineral supplement to your diet to insure adequate intake.

• As a precaution it is always wise to check with your physician before you take any drug, particularly if you are considering one of the higher dosage products.

• In the case of infants using commercially prepared infant formula do not add a vitamin supplement unless your doctor so directs. Infant formula contain the required amounts of vitamins and minerals and you will be giving an excess dose.

TABLE 1 **Daily Nutrient Intakes Recommended for Moderately Active Canadians[1]**

	Weight lbs.	Calories	Protein* g.	Calcium g.	Iron mg.	Vit. A I.U.	Vit. D I.U.	Vit. C mg.	Thiamine mg.	Riboflavin mg.	Niacin mg.
Males	158	2850	48	0.5	6	3700	—	30	0.9	1.4	9
Females	124	2400	39	0.5	10	3700	—	30	0.7	1.2	7
Females (pregnancy)	—	—	50-59	1.2-1.9	13-15	4200	400	40	0.85	1.45	8.5
Children (0-6 yrs.)	6-40	360-1700	7-20	0.5-0.7	5	1000	400	20	0.3-0.5	0.5-0.9	3-5
Children (7-12 yrs.)	40-77	2100-2500	24-30	1.0-1.2	5-12	1500-2000	400	30	0.7-0.8	1.1-1.3	7-8
Adolescents	—	—	39-47	.9-1.2	12	2700-3200	400	30	0.9-1.1	1.6-1.9	9-11

*Protein recommendation is based on the average normal Canadian diet. Vegetarian diets may require a higher protein content.

[1]Condensed from Dietary Standard of Canada, 1963, Canadian Bulletin on Nutrition, Vol. 6, No. 1, March, 1964 revised 1968 by Department of National Health and Welfare.

RINSING STUDY — SELF APPLICATION OF FLUORIDE IN EAST VANCOUVER*

S. J. GALLAGHER, B.S., D.D.S., D.D.P.H.
Dr. Gallagher is the Director, Dental Health Division, City of Vancouver, B.C.

Introduction

Vancouver is a non-fluoridated community where dental disease experience is high, especially among children. Treatment resources are not uniformly divided in the city. East Vancouver has few dentists but many children with untreated dental disease.

The fluoridation issue and the dental manpower situation are not about to be changed quickly so an alternate method of decay prevention was considered. Fluoride rinsing has been successfully used elsewhere and it is a relatively inexpensive activity. We chose fluoride rinsing as our decay prevention alternative.

Relative Knowledge

In the 1940's, Bibby reported on 0.01 per cent sodium fluoride rinses. The results were unsatisfactory. This stimulated investigation as to why the studies could have failed. Suggested ideas for future research were:

1. different age groups as subjects
2. better supervision
3. studies to be carried out for a longer period of time
4. different concentrations of rinse be tested (1) (4)

Torrell & Siberg tested a 0.2 per cent sodium fluoride solution and produced significant results after one year. (8)

Torrell & Ericsson in 1965 reported on the success of a school supervised mouth rinse study. (7)

Swerdloff & Shannon tested a daily rinsing of 0.1 per cent stannous fluoride. It was a very short study (5 months) and the reduction of DMFT was not considered significant. It did establish that it was feasible for teachers in a school setting to supervise the use of a mouthwash. (6)

Horowitz & Creighton reported significant results with Grade 5 students using a 0.2 per cent neutral sodium fluoride solution. It was a large study (874) and lasted 20 months. (3)

Objectives

1. To reduce tooth decay by weekly rinsing with fluoride.
2. To test the practicality of a teacher supervised public health measure.
3. To promote the idea of prevention of dental disease by using fluorides.
4. To create interest in dental health among students, teachers and parents.

**Presented at the Canadian Public Health Association Meeting, Montreal, April, 1973.*

Sample

The area of East Vancouver was selected because of:

— low level of dental health
— least interest shown in prevention
— majority voted against H_2O fluoridation
— many pockets of low socio-economic level
— unavailability of treatment services

Eight schools were selected. In selecting schools, we chose principals who were interested in health. We chose grade 5 students because they would continue through grades 5, 6 and 7 in the same school. Total grade 5 enrollment in the eight schools was 906.

Planning & Organizing

The eight school principals were individually contacted, the rinsing study explained and objectives presented. All responded positively. The personal visit was followed up by a letter.

Parental consent cards were designed. Because of two large ethnic groups living in the area, an accompanying letter to parents was translated into Italian and Chinese languages.

Consent cards and accompanying letters to parents were distributed to students by two dental assistants who visited every classroom, gave enthusiastic talks about the study and at the same time demonstrated oral hygiene techniques. 98 per cent of the cards were returned, only 4½ per cent of parents did not consent.

During February 1970, clinical dental examinations were conducted by a Dental Health Division staff dentist. A standard No. 4 mouth mirror, No. 5 explorer and head light was used. Findings were recorded on a form designed by another staff dentist, Dr. M. W. Maclean. The form was coded for transfer of the information to a computer card, and was very easily checked for correct recording. This form eliminated a great deal of clerical work afterwards. One dental assistant recorded OHI (Green and Vermillion Simplified) all through the examination. (2) To increase dental interest among East Vancouver parents, they were invited to help as volunteers.

Upon completion of the survey, all students in the same classroom were divided into two teams. Criteria considered in the division were: 1. DMFT and DMFS, 2. Dental age, 3. OHI. A flip of a coin decided which team would be experimental and control.

Meetings were held with grade 5 teachers, the study explained, rinsing procedure demonstrated, and supplies provided.

Class lists (absentee) were supplied and teachers asked to record absent students only. As these lists were not accurately recorded, they were not included with the results.

Method & Procedure

Every classroom was provided with two one gallon jugs with ½ oz. dispensers, supply of paper cups, paper tissues and plastic disposing bags. Solutions were mixed by dental staff. Fluoride solution was 0.4 per cent neutral Na fluoride (0.18 per cent of F ions); placebo-sodium bicarbonate. Both solutions were colorless, almost tasteless.

Rinsing was done once a week in the morning. Students acted as monitors: they dispensed the

solutions, collected used cups, kept time, reminded each other about brushing.

Team One would line up for solution 1, get a cup, hold it up to be filled, get one paper tissue, and return to their seats. Team Two would follow. When all were seated, the teacher would give a signal to start rinsing. Students would take their portion into their mouths, rinse vigorously for one minute so that fluoride would reach every side of every tooth. At the teacher's signal, they would spit back into the same cup, wipe their mouths with the tissue, place the tissue into the cup (tissue soaked up all the liquid), dispose of their cups into a plastic disposing bag which was carried between rows of seats by the monitor ("clean-up team").

The whole procedure took less than 10 minutes of classroom time. Children were very strongly impressed not to swallow any of the solution and not to eat or drink for 30 minutes after rinsing. A few persistent swallowers were withdrawn from the study.

Rinsing was started in March 1970 and continued once a week, except for holidays, until June 1972. During May 1972, the final dental examination was conducted by the same dentist, using identical method and recording. OH index was recorded by one examiner, but not the original one.

Results

This was a double blind study. The students did not know whether they were in the experimental or control group and the examiner was not aware of the student's experimental status.

Raw data from both examinations was transferred to punch cards and the cards processed by the Simon Fraser University computer using a University of California library program. The Health Department statistician was on leave of absence at this time so we were without his advice. The data has now been analyzed by our statistician but there are gaps in the information available that probably could have been avoided.

Tables of figures are difficult to present in a verbal report. We plan to submit our study for publication to one of the public health journals. All the facts and figures with analyses will be included. Today I want to discuss with you some of the main effects and interactions that occurred.

Variables analyzed were:

1. Decayed Teeth
2. Filled Teeth
3. DMFT
4. DMFS
5. Dental Age
6. OHI

Decayed teeth, DMFT, and DMFS were the indexes of the study affected by the treatment. The mean for the experimental group for decayed teeth was 27 per cent lower than the control group. The main effect of treatment on decayed teeth was significant at the .01 level whereas DMFT and DMFS were significant at the .05 level.

Examining decayed teeth further reveals interesting developments. There was a decrease in decayed teeth for the experimental group of 14.6 per cent whereas the control group increased by 8 per cent. If we consider decayed teeth by sex, there are some surprising results. Decayed teeth for boys increased by 8.8 per cent and girls decreased by 11.6 per cent.

Filled teeth showed large increases during the period of the study. Boys filled teeth increased by 86 per cent and girls increased by 102 per cent.

For DMFT the main effects of sex and treatment are significant when considered separately. The interaction between sex and treatment for DMFT is not significant because each variable reacted in an opposing direction.

Dental age confirmed what has been reported in other studies. Girls started out with a higher dental age than the boys, but by the end of the Study, there was only a 3 per cent difference. Boys dental age increased 46 per cent whereas girls dental age increased only 34 per cent.

OHI results are also what we would expect. Boys OHI increased and girls OHI decreased. The absolute values do not seem very different but sex and OHI is significant at the .01 level.

This is not intended to be an in depth statistical analysis of the study. I have tried to highlight the main features as I see them. The computer print-out is available for anyone to study if he wishes. The traditional use of DMFT as an evaluation of the effectiveness of a dental program leaves a lot to be desired. I believe we should be reporting more on sound teeth or caries free mouths as a measure of success or failure.

Discussion

It was felt that the study went well. Teachers participated willingly. A few expressed some feeling about school work being interrupted. Only one teacher was truly negative and commented: "What shall we be asked to do next?"

During the 27 months, 86 classes participated and 86 teachers were involved in active supervision.

Students were very enthused at the beginning of the study, but the novelty wore off and it soon became just a weekly routine of the regular school program.

It took special effort and time for our dental staff to organize, supervise, provide supplies, and change solutions. However, these visits were a good time for contact, encouragement, and dental health promotion. Solutions had to be changed every 3 or 4 weeks, or the fluoride solution would develop a slightly bitter taste. Solutions had to be kept in a cool, dark place, preferably in a locked cupboard.

All students that participated in the fluoride rinsing study were given talks on Fluoride, Dental Plaque and its removal. Talks were illustrated with slides and also many students volunteered to practise flossing and brushing.

The study was relatively economical — 51c per child per year.

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(Continued on page 25)

ESTABLISHING RAPPORT: PHASE I, THE FIRST FOUR MINUTES*

EDWARD S. STERLING, D.D.S.
Dr. Sterling is Chief of Pedodontics, The Nisonger Center for Mental Retardation and Development Disabilities, and Assistant Professor of Pedodontics, The Ohio State University College of Denistry

In this era of delegation of responsibility, the dental hygienist's role is broadening with each day. Whether the individual hygienist is pleased or comfortable with these changes is a separate issue. The point is that the dental hygienist is assuming or is being asked to assume ever greater responsibility for patient care and contact. The intent of this paper is to deal with the latter part of this responsibility, namely contact.

Other than the receptionist who will have initial contact with a family via the telephone and initial entry in the office, the hygienist is the first member of the health team the family experiences. Consequently it is incumbent on the hygienist to develop positive initial rapport or contact. Why is it incumbent? And, if it is that important, how does one go about developing rapport and trust?

It has been determined that the first four minutes of contact are extremely important to a relationship. [1,2] In other words, if you don't "make it" in the first four or five minutes of any relationship with your patient, client, parent, colleague, etc., then, in all likelihood you will not "make it." Therefore, how you initially greet them, the setting of the meeting and stating expectations of the meeting play a determining factor in establishing rapport. Obviously, as a dental health professional, you have an absolute need to establish rapport to accomplish your goals. Without patient co-operation, the dental health professional can accomplish very little, if anything. In fact, dentistry probably requires more co-operation from the patient than any other helping profession.

The greeting is very important. This is the time when initial awareness and consciousness of the patient occurs. Does the patient extend his hand or does he look fearful? Know the patient's name so he may feel more comfortable. You want to know him. This acknowledges the person's presence as well as to help establish him as not just a patient but a human being, too. Once the initial greeting is completed, some light interchange is helpful. Whether it is to comment on the weather, manner of dress or time of day is unimportant, the critical point is positive contact. People want to be recognized. A valuable factor throughout this inital meeting is eye contact. The intent is to relieve the person and not develop a negative starting point.

*Submitted by H. A. Fox, R.D.H.
5491 Worthington Forest Place East
Columbus, Ohio 43229

The next phase is to describe what is going to happen over the next few minutes. This may only be, "let's walk back to my office so we can talk" or if it is a child, "let's go back to my office so I can take a look at your teeth." This informs the patient, and again helps lessen anxiety. It is important to remember that people fear the unknown. As a child, you may recall, the threat of punishment was usually greater than the punishment itself. New, strange situations and settings are fear arousing for children and adults. Anything which helps alleviate this fear is useful. Incidentally, a word of caution is appropriate at this point. If your patient is a child, avoid asking questions like, "Would you like to come with me?" As obvious as this appears, it happens often. If you ask a direct question, and get a direct answer; i.e., "no", you are then caught in a bind. Either, you must disregard the child's answer in which case you have probably damaged or destroyed your previous attempts at establishing rapport or you must back up and start again. It is much easier and safer to avoid such questions. Leading statements, mildly directive will accomplish the task more quickly and efficiently. Essentially, the aim of this step in establishing rapport may be summarized as, "inform before you perform."

Some light conversation on the way back to the office or operatory is useful. It may be a continuation of describing what will happen next or to continue the conversation begun in the waiting room. It is helpful to remember how you feel in a new situation. Things which would be helpful for you to alleviate anxiety would be likely to be helpful to your patient. Long silences can promote discomfort; however, if you are uncomfortable with light conversation, do not attempt to "fake it." It has been determined that 55% of communication is non-verbal, e.g., body language, grimaces; 37% is the manner in which it is said, e.g., tone of voice; and the remaining 8% are the words used. Consequently, honesty is an important ingredient because the content and manner of your message will expose you.

Light conversation or "small talk" helps to establish the patient's uniqueness, — his individuality. With a child, it may be to make a comment regarding his or her new outfit or how long it required to get to the office or how many brothers and sisters there are. The range is limitless. The answers may already be known by you. The value of this step is the sharing of information. Patients usually are not willing or perhaps able to begin at the very basics — the information you desire. After these basic steps have been followed, the patient will often lead you to the topic at hand, namely dental health and preventive practices.

If I had to define rapport in a word, the word would be trust. The basis for future relationships must be built on trust or little will follow. Often, rapport is glossed over as "step three" in some flow chart of steps to be followed in seating a patient or examining the oral tissues of a patient.

The dental hygienist is gaining increasing need for professionalism in the form of humanity, understanding, and sensitivity. On the contrary, it appears professionals today allow less time for patient contact.

The steps described in this paper require four minutes or less. This author is biased but he believes these four minutes may make the difference between a satisfied, truly professional person and someone who merely scales or fills teeth.

The next phase of rapport occurs in the dental chair and can be described as behaviour modification or preparing the individual for the role as "patient". It is particularly applicable for children but may be generalized to any patient including individuals who are handicapped.

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GUIDELINES FOR CONTRIBUTORS

Hans E. Franzgrote, C.D., R.D.H.

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DIET COUNSELLING TO PREVENT CARIES*

MARET TRUUVERT, D.D.S.
Dr. Truuvert is in private practice and a staff member at the Faculty of Dentistry where she has a continuing interest in preventive dentistry, particularly nutrition and diet.

The recent interest for prevention in dentistry has focused mainly on plaque removal, including both methods of technique and patient motivation. The almost singular concentration on this one facet in prevention of dental disease is probably due to a feeling among the profession that caries is fairly well under control. We add fluoride to drinking water, apply topical fluoride to the teeth, remove as much cariogenic plaque as possible by proper oral hygiene and, whenever caries occurs despite these measures — and it does! — we restore. The big riddle at this time is still periodontal disease. We do not know the exact aetiology of the disease but deal largely with unknown factors and, therefore, our curiosity and efforts are directed toward them.

How often, however, does a general practitioner have to encounter a mouth where early loss of a lower first molar has greatly accelerated periodontal deterioration of one whole side of the mouth? Likewise, how often do we attempt to fight periodontal disease in a mouth where crowding is a result of gross caries or premature loss of the deciduous teeth? The same holds true for large interproximal restorations such as crowns, bridges, partial dentures and even deep interproximal amalgam restorations with overhanging margins. Consequently, a great deal of our periodontal problems are secondary to early caries problems.

Caries can be prevented almost completely if enough effort is made. It is a multifactorial disease and so its prevention requires a multifactorial approach. This kind of an approach is in fact easier than a single effort in one specific area and attempting to achieve 100 percent results in it. For a successful caries attack, the prerequisites are a susceptible tooth, bacteria, and substrate, which for practical purposes can be interpreted as sugar (sucrose).

The bacteria (e.g. streptococcus mutans) utilize any sucrose supplied by the diet for dextran formation, which then as a part of plaque, forms an ideal hiding place for both streptococcus mutans and other acid producing bacteria. When any further sugars (e.g. sucrose, fructose, glucose) are supplied, the plaque bacteria utilize these for acid production. When the pH in the plaque drops below 5.6 (or 5.2 in a tooth with optimal fluoride protection), demineralization of the tooth enamel commences. The attack continues until the plaque pH rises back above the critical pH. This, essentially is the theory behind the smooth surface caries attacks.

* Reprinted from Ontario Dentist, Volume 50, No. 8, August 1973

In pits and fissures, the etiology seems to be slightly different; plaque formation is minimal and even starches can eventually cause caries, but again here the main culprit is sucrose.

We are all aware of the importance of fluoride protection, both systemic and topical. We also stress good oral hygiene, although in many cases up until now it tended to be restricted to such advice as "brush your teeth after every meal". However, the third area in prevention: Limiting the substrate that the bacteria can use, has been largely neglected. Just a piece of advice to "keep off sweets and other such things" is far from sufficient in diet control.

Why is this so? Possibly as practitioners we can name as reason number one our own lack of detailed knowledge and understanding in this area, most likely because we have so little time to keep up with what has happened recently in caries research. Reason number two would be a common and often misled belief that most people's eating habits cannot be changed. Reason number three is definitely a certain difficulty in communicating with the patient. As men and women in a free profession, most often we are used to command and tell — an approach which in diet counselling, unfortunately, is not very successful. Many of us also feel hesitant about taking time to talk to the patient when perhaps one is half an hour behind schedule and the waiting room is full.

The early caries and early loss of teeth mentioned previously is not accidental. We all know that caries in modern man is a disease of youth; the particularly susceptible period continuing to approximately 20 years of age. A young tooth — either deciduous or permanent — has not acquired the maturity from local contacts with protective agents. Also, up to around age 20, eating habits are usually more irregular than in later years. The purpose of this article is to deal with the eating habits of the young and how to change them successfully.

All carbohydrates are cariogenic under certain circumstances, but the cariogenic effect of starches becomes a concern only when there are areas in the mouth where they tend to be trapped; for example deep pits and fissures, poor contacts and overhanging restoration margins. Even pit and fissure caries is comparatively rare if the diet is low in sucrose; subsequently we can limit the carbohydrate counselling to sugars only.

If we look at an average daily menu, we realize that practically every meal contains some sugars. Consequently with every meal there is a drop in plaque pH — or, an average patient will understand it better if we say there is a rise in acidity. We can illustrate it to the patient using the following type of graph (Figure one). When the acid level is indicated as low, it means pH values are above 6.0, and at such a neutral pH some remineralization of the damaged enamel surface can take place. With the normal three meals a day, the remineralization in most cases compensates for the demineralization which takes place during meals, and any caries formation is not likely.

If, however, we add a few sweetened snacks —

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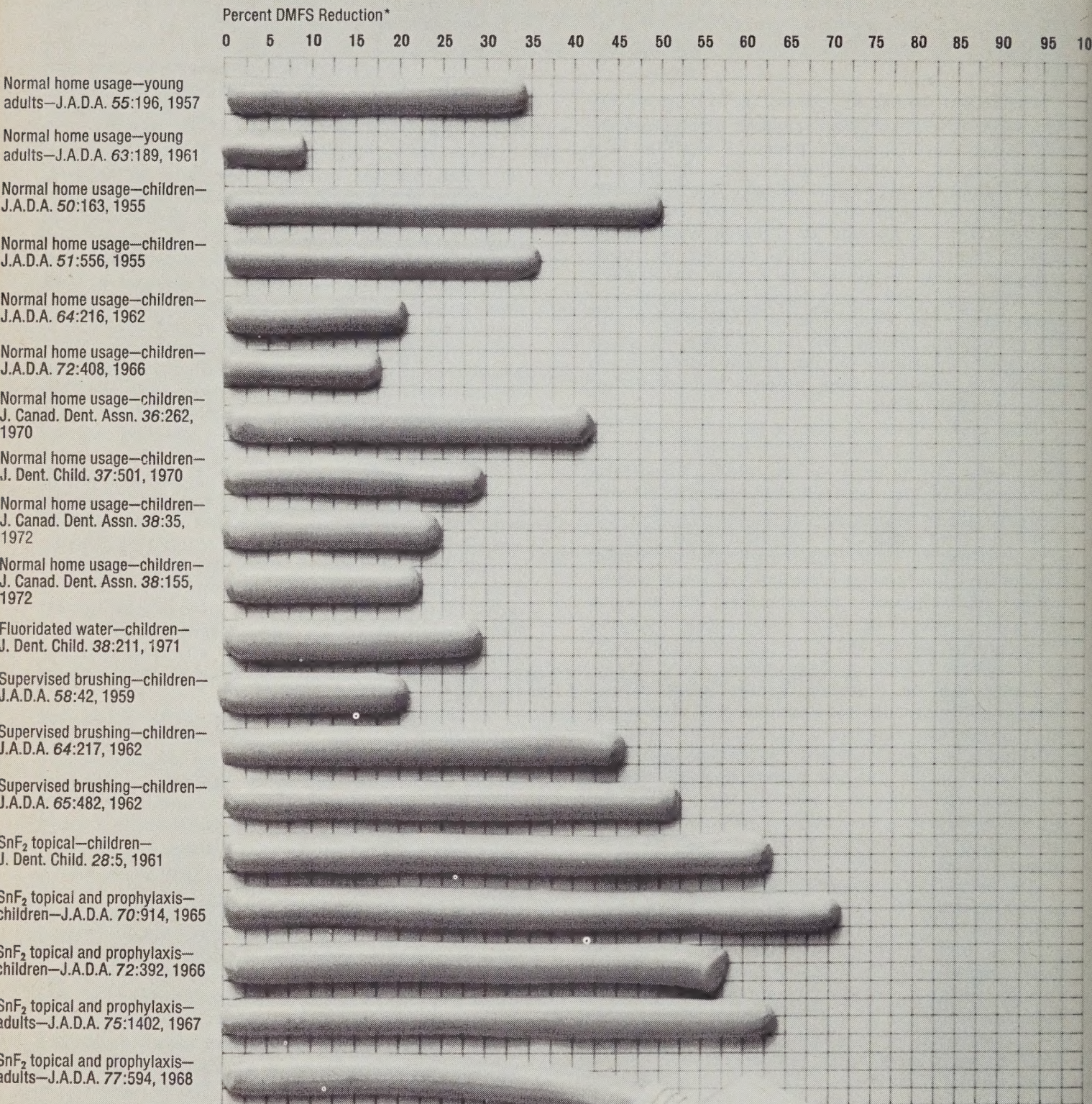

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even as innocent-sounding as an arrowroot biscuit, a cup of hot chocolate or a serving of cereal with a little sugar — the plque acid pattern would look quite different (Figure two).

The pH would never get a chance to reach the remineralization level and the sum total of even very small attacks would cause caries if given a chance to continue over a period of time.

The seriousness of the attack depends on several factors; the main being concentration of the sugar, time period of sugar presence, absence or presence of such caries inhibiting factors as fat or phosphates, rate of salivary flow and consistency of saliva.

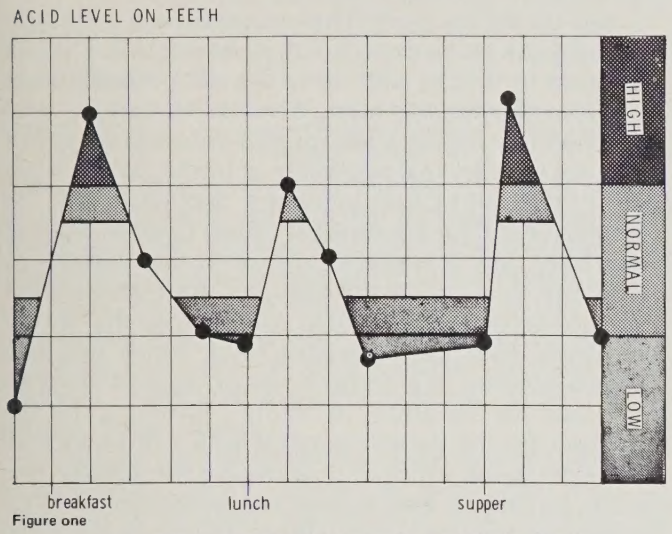

Figure one

Acid levels on teeth following a regular three-meal-a-day diet.

The plaque pH would stay at a low level for a considerably long period of time if we did not have an excellent natural buffer in saliva. Stimulated saliva especially, is well known for its good buffering capacity and this is the reason why a sweet eaten with a meal will never cause as severe an attack on the enamel as one eaten between meals when the salivary flow is greatly diminished. A sugar-containing food or drink taken in the evening close to bedtime will cause particularly severe damage because of the diminished salivary flow during the night. The patient's insistence that teeth are brushed after eating the snack makes us always question the thoroughness of the oral hygiene procedures in the first place and of course the time lapse between the first bite of the sweetened food and the actual brushing. Knowing that the attack starts within a few minutes after the first introduction of the sweet, and the peak period lasts about the first 20 minutes after it, we realize that the effect of toothbrushing in most cases is a little questionable.

Being aware of all these facts, our next problem is presenting them to our caries-susceptible patient. In some cases, where we deal with intelligent patients who are truly interested in reducing their caries incidence, just a simple explanation of all the above facts is sufficient. A real impact, however, is obtained when the patient sees his/her own diet in the light of these explanations. When a new patient is accepted, it is best not even to mention the different effects that different foods have on teeth and other oral tissues. It is better to explain that diet and nutrition play a very important role in oral health and that diet counselling is a very definite part of the treatment plan. This should be followed up with explanation in detail of how a diet record should be kept for six days, including all foods, listing additions to them (e.g. sugar on cereal, butter on bread, etc.) and snacks listing approximate amounts and times for consumption. A Diet Record Sheet as used by the University of Toronto, Faculty of Dentistry, Department of Preventive Dentistry, could well serve as a model here[1] (Figure three).

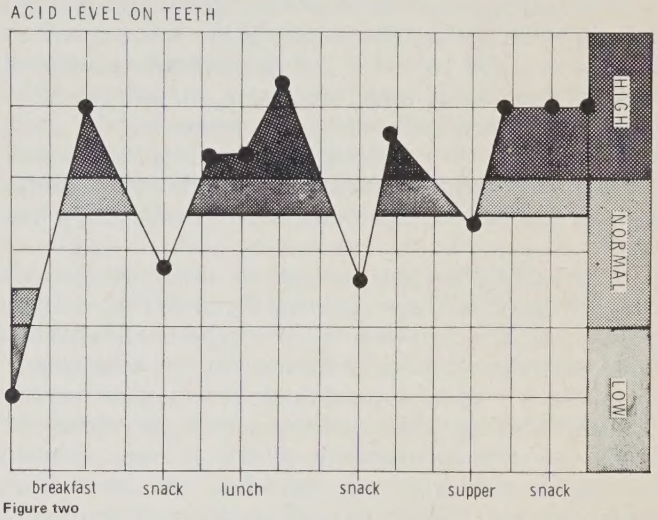

Figure two

Acid levels on teeth in a daily diet routine with several snacks in addition to main meals.

The reason why we do not want to discuss the merits or demerits of different foods before seeing the patient's actual diet, is because we feel this may easily influence the patient to give a biased record of the food intake.

A practical tip here is to ask the patient to mail in the record if the next appointment is more than a week away. The reason for this is purely human. Patients forget! A diet sheet can be forgotten if you ask the patient to bring it. Having the diet sheet before the ap-

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY
DIETARY RECORD

Date .....
Patient ..... Age . . . Height . . . Weight . . . Sex . . .
This sheet is to be filled in and returned to .....
(Dentist's name and address)

1. Please record in detail everything you eat or drink in the order in which it is eaten.
2. Include not only meals but between-meal snacks, candies, gum, soft drinks, etc.
3. Use household measurements such as 1 serving, ½ cup, 1 teaspoon.

Example

Wrong	Right
Soup	1 bowl cream of tomato soup
Sandwiches	2 tuna sandwiches with lettuce
Dessert	1 serving chocolate pudding
Coffee	1 cup coffee with milk and 2 tsp. sugar.

	BREAKFAST	LUNCH OR DINNER	DINNER OR SUPPER	BETWEEN MEALS
DAY 1				A.M. P.M. EVENING
DAY 2				A.M. P.M. EVENING
DAY 3				A.M. P.M. EVENING
DAY 4				A.M. P.M. EVENING
DAY 5				A.M. P.M. EVENING
DAY 6				A.M. P.M. EVENING

Prepared by the Department of Preventive Dentistry
Faculty of Dentistry, University of Toronto.

Figure three

A diet-analysis form which can be completed by each patient.

pointment also gives you time to analyze it nutritionally, breaking the food intake down into different food groups.

After the diet has been analyzed, the counselling can take place at any time. It can be made into a separate session in a series of preventive counselling sessions, it can be part of an appointment when something else besides the counselling is done as well — this is especially helpful for patients travelling a long distance — or if a diet is poor enough, a whole appointment can be devoted to discussing it with ways to improve it.

A very definite piece of advice is to counsel parents and children separately. If the child is too small to counsel and the parent is still in complete control of food intake, counsel only the parent, in most cases the mother and preferably *not* in the presence of the child. Firstly, she may be trying to place some blame for a faulty diet on the child and secondly, the child will be keeping some of her attention away from what you are saying.

If the child is old enough to understand some counselling (school age), counsel the child first — in the dental chair if you so wish — and the parent afterwards. An auxiliary can counsel the parent at the same time as the child is receiving treatment. If the same person counsels both the child and the parent, be careful not to give away any secrets the child may have revealed during counselling, e.g. goodies received from classmates, etc. These are usually not so numerous as to cause any dental problems, but if revealed may cause trouble in the doctor/patient relationship.

Should we counsel every young patient whom we accept for treatment? The answer should be — yes. In many cases where the diet is good, the whole counselling would only take a few minutes to evaluate the diet and another few minutes to inform the patient of the good result of the analysis, pointing out the merits. Some diets are good without the patients themselves realizing why. We are doing a real service by making them conscious of it.

Where do we counsel? Many of us do not have a separate room for preventive counselling and find it difficult to create one. Counselling can be done in any place where you can look at the diet undisturbed and discuss it together with the patient. It can be done at the chair side with the dentist sitting down at the patient's level, it can be done in a quiet corner in the waiting room and it can even be done in the room you and your staff use for having an occasional quick cup of coffee. Of course the room should look neat and tidy, but the result of the session is mainly up to your approach and handling of the subject and not the environment.

Who does the counselling? If you are interested enough in the subject yourself, go ahead! At least the introduction should come from the doctor, showing that you consider the diet to be of great importance but may be delegating the duty of discussing it in detail to a very knowledgeable person among your staff. The auxiliary who undertakes this does not have to be of any specific age but has to have sufficient maturity and authority to handle some unexpected or unusual situations that may come up during counselling. A too maternal or paternal and domineering person is not a wise choice either. Besides being knowledgeable on the cariogenicity of different foods, this kind of counselling also requires a working knowledge of nutritional requirements of human beings and the nutritional value of different foods. The counsellor should not be afraid of consulting books during the session, if the situation so requires. An idea of the patient's economic background and a knowledge of general food prices (in season or out of season foods) is also necessary. However, the most appreciated characteristics of the counsellor are sincerity and true interest in the patient's welfare.

How do we counsel? When counselling a child who has had some caries experience, point out that what we are about to discuss with him now will probably keep him from developing more cavities. To parents who may object to paying a fee for diet counselling, gently point out the very real possibility of future savings if advice is taken and caries incidence decreases. Ask the young patient if he knows what causes cavities. Most of them have only a vague idea. Explain that bacteria or germs live in every person's mouth, preferably on the teeth and some of them like to use the sugar that we eat and drink with our everyday food. Point out that bacteria produce acid from the sugar, as most children know acid has the ability to "burn". Following this explanation ask the patient to circle with a red pencil all sugar-containing foods and drinks on the six-day diet record. It is always best to have the patient do the circling because only he knows if there is sugar on his cereal or in his coffee or tea, if the orange juice was sweetened or unsweetened or maybe mixed from crystals (e.g. Tang). After all the red circles have been placed, and usually they are numerous, explain that every meal time circle represents an acid attack lasting approximately 20-30 minutes, but every between meal circle means a longer attack, up to one hour depending on the nature of the sweet. Here a simple explanation of different salivary action at different times is important.

Many patients, especially teenagers, express

RECOMMENDED DAILY FOOD INTAKE

MILK

Children up to 11 years	2½ cups (20 fl. oz.)
Adolescents	4 cups (32 fl. oz.)
Adults	1½ cups (12 fl. oz.)
Expectant and nursing mothers	4 cups (32 fl. oz.)

CITRUS FRUIT (oranges, grapefruit, etc.), tomatoes or vitaminized apple juice for vitamin C

DEEP YELLOW OR GREEN LEAFY VEGETABLES for vitamin A
3-4 servings per week

OTHER FRUITS OR VEGETABLES 2 or 3 servings

PROTEIN FOODS	meat, fish or poultry	1 serving
	eggs	3 times a week
	cheese	3 times a week

VITAMIN D As supplement or enriched margarine or vitamin D milk to give 400 I.U. for all growing persons and expectant and nursing mothers.

BREAD OR CEREAL If breakfast cereal is eaten it should be whole grain. Bread should be enriched white, whole grain or rye.

FOODS IN DIET		DAY 1	2	3	4	5	6	
Milk (8 oz. glasses) as beverage								
Citrus Fruit, tomatoes, vitaminized apple juice								
Deep Yellow or Green Leafy Vegetables								
Other Fruits or Vegetables								
Protein Foods	Meat, fish, poultry							
	Eggs							
	Cheese							
Carbohydrate Foods	Bread							
	Cereal, whole grain or enriched							
	Rice							
	Spaghetti, macaroni, etc.							
Vitamin D if not added to milk								

Figure tour (A and B)

Sections from diet analysis sheets giving recommended daily food intake, presently used by the Department of Preventive Dentistry, Faculty of Dentistry, University of Toronto.

genuine amazement at the number of circles on the record; they never realized that they were taking sugar so often. When dealing with teenagers also point out other ills that sugar has brought to our civilization; it is a definite contributor to obesity and acne, its role in cardiovascular diseases is becoming more established all the time and many physicians blame the increase in diabetes, especially juvenile diabetes, partly on increased sugar intake.

After having explained what sugar can do, place the responsibility on the patient by asking him what he proposes to do about the situation. From here on, let the patient do the talking gently guiding him along. Many patients suggest that they can just simply stop snacking. This is desirable but unrealistic and we have to point this out. Try to guide them to the right substitutes for the sweet snacks. Referring to the diet analysis sheet, we can suggest for example that if milk intake appeared a bit low, would it not be possible to introduce milk or some form of cheese as a snack. If citrus fruit intake was low, suggest vitamin C containing juices or citrus fruits as snacks, or if deep yellow or green leafy vegetables were missing, suggest carrot sticks or tomato juice. Again it would be best if the patient could come up with these suggestions after having nutritional anaylsis explained. Also encourage the patient to think of other substitutes such as diet soft drinks instead of regular ones, potato and corn chips, popcorn, all kinds of nuts, cheezies instead of candies and chocolates, bananas on peanut butter sandwiches instead of jam or honey, pizza or crackers with butter or cheese instead of cookies, and of course, fresh fruit whenever possible. Dried or canned fruits are discouraged as snacks because their high sugar content (Figure four).

When the patient understands that it is the frequency and not amount of sweets that counts, and that many sweets may be eaten with meals without causing much harm, we have reached some of our goal.

A booklet of great help and value in counselling is "What to Eat to be Healthy" by Dr. Elizabeth Chant Robertson.[2] A good idea is to issue each patient with this booklet after the diet counselling session, briefly leafing it through together and explaining the different sections.

The aim in counselling is always a positive approach; never accuse, try not to make the patient feel guilty, show genuine interest and wish to help. Do try to get across that the dentist can only repair whatever damage has been done and that this damage is done by the patient himself and only he can prevent it from happening again.

Do not promise miraculous results overnight, and especially in case of teenagers, keep inquiring into their progress and give encouragement at return visits and semi-annual checkups. Interest and patience have shown excellent results in practices that are using this method of counselling.

In conclusion, a general dental practice is an ideal place for paedodontic diet counselling, one of the reasons being that the practitioner meets not only the child but very often the whole family including parents and grandparents, uncles and aunts. Every opportunity should be taken to get preventive and nutrition education across to the family. Do not even wait until the children are brought to you, start with parents and family when the baby is being expected.

Explain that sucrose is an absolutely unessential part of our diet and the later it is introduced, the better for the child. Suggest leaving sugar or syrup out of the formula as soon as the pediatrician permits. Teach the parents to use a rubber teething ring instead of arrowroot or teething biscuits, as this has the added benefit of discouraging snacking. Finally, tell them to never, never let the baby go to sleep with a bottle of formula or juice.

For all this effort, your next generation of patients will be grateful to you. The most embarrassing situation in your office will be attempting to explain to new patients why their previous dentist never gave them all this information.

Bibliography

1. *These Diet Record Sheets are available at the University of Toronto Book Store.*
2. *What to Eat to be Healthy,* by E. C. Robertson, The Canadian Life Insurance Association, 44 King St. West, Toronto, Ontario.

Suggested Reading

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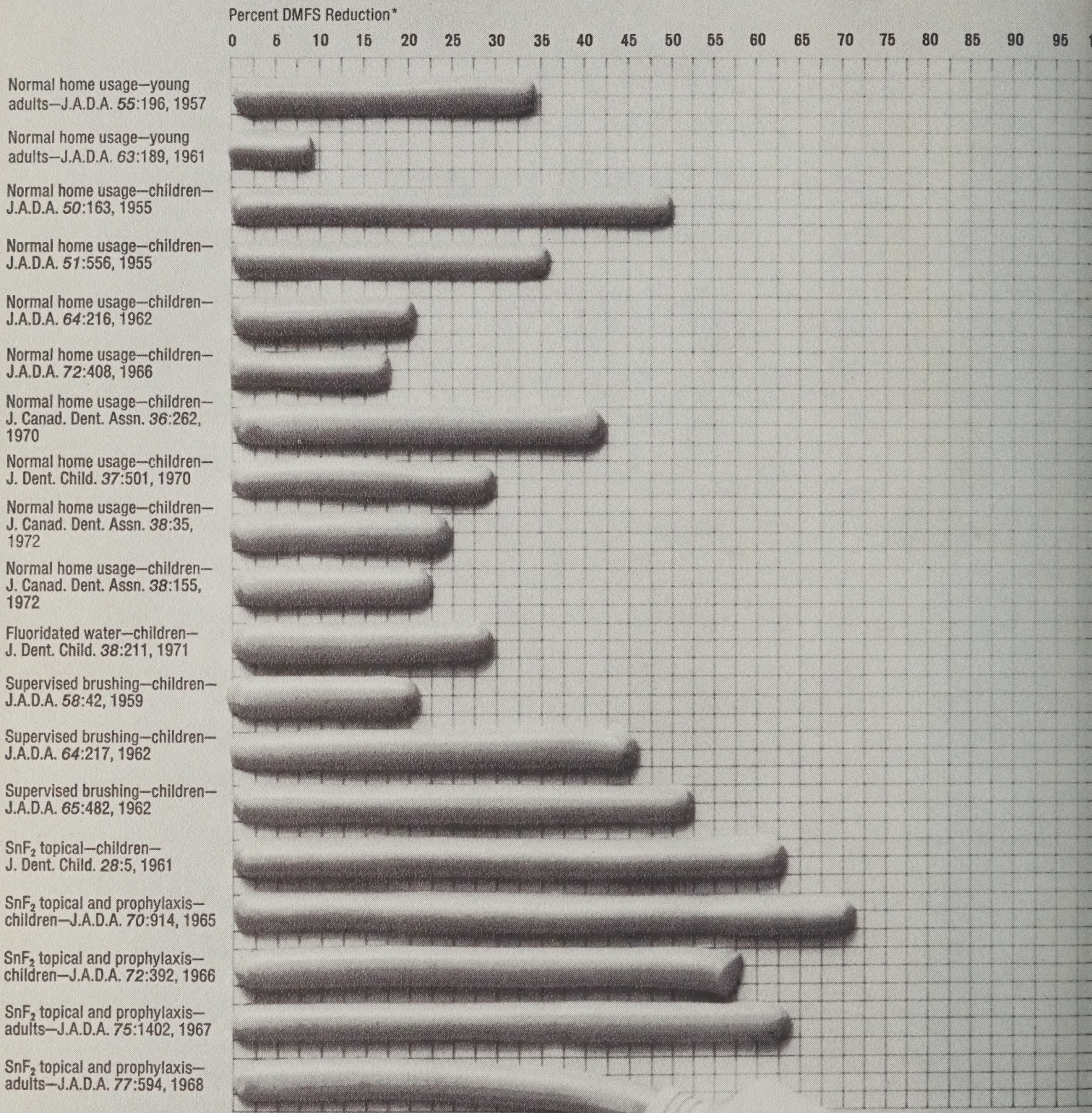

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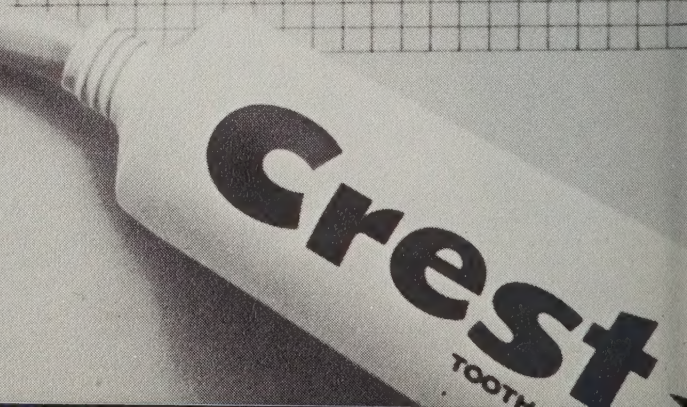

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PRESIDENT'S MESSAGE

Some people find security in constancy, my sense of security manifests itself in change. Rather than accept traditional values and beliefs at face value, it is important to me to challenge those values and beliefs by subjecting them to new criteria and to periodic review. In addition to the security of family and friends with whom one interacts throughout a lifetime, I look forward to meeting new people and forming new relationships of varying length and intensity. Although I feel secure in having a home in a particular community, I am not afraid to begin afresh somewhere else. Even though I am happy in my present career, I am not adverse to changing the direction of my career, or even of considering an altogether different career.

One reason that I am secure in the ability to adapt to change is that I realize change occurs for a number of reasons. Some changes are the direct result of unilateral decisions. My decision to pursue a career in Dental Hygiene was the result of my own planning. Other changes occur as the result of consultation with others and of changing circumstances. I presently live and practice in Ontario, partially as a result of career opportunities for my husband and myself and partially as a result of choice. Still other changes are the result of decisions made by others. What the future holds for me as a dental hygienist could be the result of decisions made by others.

The consumer today is becoming increasingly conscious of his rights in regard to health care. Provincial governments are very much attuned to the fact that adequate health care is the right of every citizen. Dental care, in particular, is becoming an important political issue. When the profession is not able to provide adequate care to all people, the government may be compelled to make decisions that affect changes in the provision of that care, and this may or may not be the result of an informed dialogue with the profession.

Government is under pressure to respond to the demands of the public. Similarly, I am challenged to be informed of my own obligations in this regard. For guidance I consider a section of the Code of Ethics of the CDHA:

"The dental hygienist has a responsibility to society as well as to the individual. The dental hygienist should provide freely of his skills, knowledge and experience to society in those fields in which his qualifications entitle him to speak with professional competence. The dental hygienist should be active in and available to his community, especially in all efforts leading to the improvement of dental health of the public."

With this statement as a reminder of my obligations to society, I look about me and examine the state of dental auxiliaries in Canada, and I know that I must be prepared to change. Some provinces are expanding the role of the dental hygienist to provide more services, in some cases focusing on restorative procedures. Other provinces are passing over the dental hygienist in favour of a new type of dental auxiliary. Still other provinces are retaining the dental hygienist in a traditional role.

Whether I am to be expanded, supplanted, obliterated or placed in a holding pattern, I know that I will be able to adapt to the change, but I shall not quietly accept changes in my profession without prior consultation. If decisions are made without my knowledge or consent, there will be no one to blame but myself for not taking the initiative to provide information and guidance.

I wonder what the future holds for you as a dental hygienist in your province. Is your provincial government examining the question of dental care? Are you in a position to provide informed guidance? Are you prepared for the changes that will take place? For I can assure you of one thing of which you may feel secure:

"If you don't know where you are going, you will probably end up somewhere else"

Sherita K. Clark

GUEST EDITORIAL

CANADA PENSION PLAN DISCRIMINATES

Two Canadians die. Each leaves a spouse and three young children.

Prior to death, both of the deceased had worked, each receiving an annual income of over $5,000. Each had contributed the same amount of money to the Canada Pension Plan since 1966.

The CPP provided the spouse of one of the deceased with $560* and, in addition, a monthly pension of $71.12, plus $28.15 per month for each of the three children — a total of $155.57. The spouse of the other deceased received $560. Period. No CPP monthly pension for this spouse and children.

Why this difference? The answer is simple, although perplexing; one person who died was male, the other, female.

In other words, when a male contributor to the CPP dies, his survivors receive the lump sum death benefit ($560), the widow's pension, and the orphans' benefit. But when a female contributor to the Plan dies, her husband receives only the death benefit. He gets no pension unless he is disabled at the time of his wife's death (which he must prove), and was being maintained wholly or substantially by her before her death; nor do the children receive benefits unless they, too, were being maintained "wholly or substantially" by her.

Yet both male and female contributors to the Plan are treated alike as far as payments are concerned.

There must be some mistake, you say. Discrimination such as this doesn't occur in our Just Society. Unfortunately it does and, in this case, is brought about and maintained by the cobwebbed thinking and the medieval attitudes of our federal legislators.

Pension plan outdated

The CPP, based on the erroneous assumption that men are the breadwinners of all Canadian families, is outdated. Had it been enacted in 1900, it might have

made sense. Even more serious, however, is the fact that the federal government, is perpetuating this discriminatory Plan, is acting illegally: It is defying the Canadian Bill of Rights, which guarantees equal treatment for both sexes. Someone should test the legality of this plan, which treats the female contributor so shoddily.

The discriminatory nature of the Plan was brought to the government's attention in 1970, when the Report of the Royal Commission on the Status of Women in Canada was released. The commissioners said, in part: "We cannot agree with this differential treatment. Even if the financial consequences are not the same, we see no reason why the husband of a contributor should not have the same protection as the wife of a contributor. Nor do we see any reason why the children should be wholly deprived of the financial support they have received from their mother."

Noting that the Quebec Pension Plan has similar discriminatory features, the Commission on the Status of Women recommended that legislation on the CPP and the Quebec Pension Plan be amended ". . . so that provisions applicable to the wife and children of a male contributor will also be applicable to the husband and children of a female contributor."

What, then, is the federal government doing to eliminate the sections of this Plan that discriminate against the working woman and her family? Nothing.

In its *Working Paper on Social Security in Canada*, introduced in April 1973 by the minister of Health and Welfare Canada, the federal government outlines ". . . the broad directions of policy which would, in the view of the Government, lead to a more effective and better coordinated system of social security for Canadians." Under the section dealing with the CPP, the government suggests various amendments that should be considered during a federal-provincial review.**

These suggested amendments are divided into those for immediate consideration and those "that might best be considered during the course of the over-all review rather than immediately." Unfortunately, the proposal concerning equal treatment of men and women who are participating in the CPP is not in the "immediate" category.

Write to your MP

So, the Canada Pension Plan is being reviewed by the federal and provincial governments. And, unless pressure is brought to bear on both these levels of government, it is unlikely that the discriminatory sections will be amended. The federal government is not recommending that this amendment be made *immediately*, and it is improbable that the provincial governments will give it priority.

There is one way to get action. Write *now* to your member of parliament and to the Hon. Marc. Lalonde, minister of Health and Welfare Canada. Get your husband to write a letter, too. Because if there ever was an issue that affected the whole family, this is it. Demand that the Canada Pension Plan, which we are abliged to belong to, is amended *at once* — not ten years from now.

— Viriginia A. Lindabury

Reprint — The Canadian Nurse, October, 1973

** Actually, the spouse less than $560. The lump sum of $560 is paid to the estate, becomes part of the deceased's income, and is thus subject to immediate taxation.*

*** The support of "two-thirds of the provinces representing two-thirds of the Canadian people," must be obtained before the Canadian Pension Plan can be amended.*

CHILDREN'S DENTAL CARE IN SASKATCHEWAN

Dr. T. M. Curry, B.D.S., D.D.S., D.D.P.H., F.I.C.D.

Dr. Curry is Director, Dental Health Division for the Saskatchewan Department of Public Health

Good dental care is a problem in many parts of Canada. Most provinces have too few dentists, especially in less-populated areas.

To help deal with this problem, a multi-disciplinary Ad Hoc Committee on Dental Auxiliaries was set up by the federal government in 1968. Its report made several recommendations about the qualifications, training and experience of various dental auxiliaries and suggested a wide range of responsibilities they might undertake in order to help relieve the dental care situation.

The Dominion Council of Health (an advisory body made up of the federal and provincial Deputy Ministers of Health) has recommended that provincial governments examine the report in detail and implement its recommendations in accordance with their own particular needs and priorities.

The following article outlines the way in which the Province of Saskatchewan decided to use dental nurses to help provide dental care, especially for children.

Saskatchewan has a population of more than 926,000, 90 percent of whom live in the southern third of the province. There are 209 dentists practising in this area, a ratio of 1 dentist per 4,450 people. Half these dentists are in the two main cities, Regina and Saskatoon, which have just over a quarter of the total population of the province. Approximately 650,000 people live in the rest of the great plains area and are serviced by 94 dentists, a ratio of one dentist per 7,000 people. Dental consultants consider an ideal dentist/population ratio to be 1:1,500.

A dental survey carried out in 1968 found that the dental health of the children in Saskatchewan was very poor. For example, at age 7, 76 percent of the children surveyed required further fillings and 39 percent further extractions. At age 11, 75 percent of the children surveyed required further fillings in their permanent teeth and 26 percent further extractions. We estimated from these surveys that the average child would need three hours of dental treatment to be restored to dental health.

Decay rate can be partially controlled by fluoridating the water supply. So far, 120 Saskatchewan communities have done so — about half of those that could.

In other parts of the world, countries faced with a similar dental situation have tackled the problem by training dental nurses to provide dental health education and treatment services for children up to 12 years of age. New Zealand, for example, has been using dental nurses to provide dental care for elementary school children since 1921 and their performance has proved to be most successful. The United Kingdom has been training a similar type of dental nurse since 1961.

In 1969, the Dental Health Division of the Saskatchewan Department of Public Health started a research project on the effect and acceptability of using dental nurses to provide preventive and treatment services in a rural community for school children up to 12 years of age. The project was financed by Health and Welfare Canada through the National Health Grant.

The area selected was in the extreme south-eastern part of Saskatchewan, in the Oxbow School Unit. Two qualified and experienced British dental nurses were recruited, to provide treatment services under the supervision of a dentist in a clinic setting. Three certified dental assistants were employed to provide chairside assistance to the dentist and dental nurses. They also provided individual dental health education and preventive dental services.

A receptionist was hired to handle book work, charting and dental appointments. The whole team was housed in a 66-foot mobile home equipped with three dental operating areas, one x-ray area, and a complete line of modern dental equipment. The project was approved for a three-year period.

The clinic was moved to different communities in the area, always near the elementary school. Parents were invited to enrol their children in the program. All participating children were examined by the dentist and were referred to the dental nurses for the required dental treatment and preventive dental services.

More than 5,700 children were treated in the 31 months of operation. Initial care cost per child was $37 and maintenance care costs have been $28 per child per year.

When the project ended in March 1973, we conducted a dental survey of the area to ascertain the effect on the dental health of the community. In the project area, 95 percent of the school children enrolled in the program. This indicates that the dental nurses were accepted by the community. The follow-up survey showed that less than one permanent tooth per child was decayed as opposed to nearly three per child before the project began.

In June 1971, a new government was elected to office. Among the health care services it promised was an insured dental care program, initially for children up to 12 years of age.

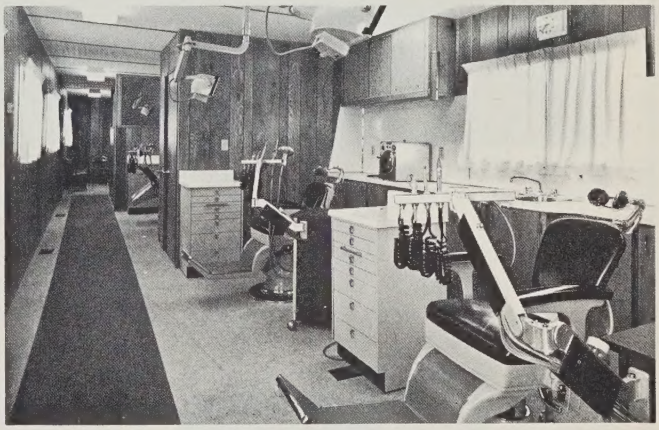
The success of the Oxbow Program, both in acceptance by the community of this method of receiving dental treatment and in the improved dental health of the community, led the government to establish a training school for dental nurses in Regina. When they have finished their training, these nurses will help provide basic dental care for the children enrolled in the proposed dental program to begin in September 1974.

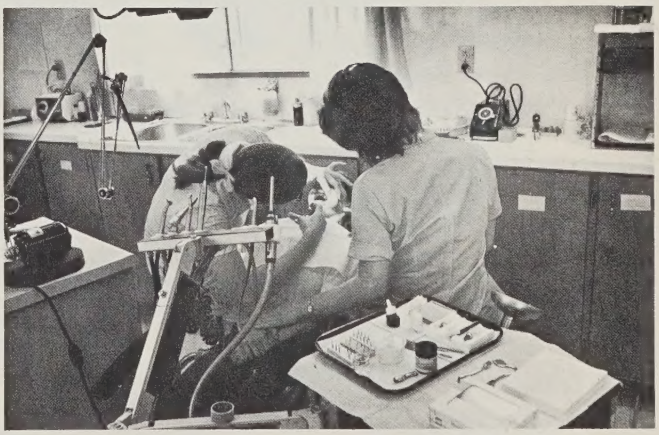
The necessary legislation to allow for the training of these auxiliary dental personnel was passed by the Saskatchewan legislature in the spring of 1972. The first course in dental nursing began in September 1972 at the Saskatchewan Institute of Applied Arts and Sciences in Regina with 36 students (35 women and 1 man). The students were recruited from all over the province; 65 percent came from rural areas.

In November 1972, the Minister of Public Health appointed an advisory committee on dental care for children to investigate the methods by which a dental care plan for children, using Saskatchewan dental nurses, might best be implemented. The Research and Planning Division of the Department of Public Health, in consultation with the Dental Health Division, submitted a proposal for such a program for the committee's consideration. Briefs were received from many North American professional dental groups. Proposals from the general public were also received, in the form of briefs and at hearings.

The final report of the advisory committee was submitted to the Minister in March 1973. Legislation to permit the establishment regulation and control of Saskatchewan dental nurses has now been passed by the Saskatchewan legislature.

(Reprinted from Living, Vol. 2, No. 1, Health and Welfare Canada.)





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PROJET DE SOINS DENTAIRES AUX ÉCOLIERS

Dr. T. M. Curry, B.D.S., D.D.S., D.D.P.H., F.I.C.D.

Directeur de la Division
de l'Hygiène dentaire
Ministère de la Santé publique
de la Saskatchewan

Il y a souvent pénurie de dentistes en dehors des centres urbains au Canada. L'hygiène dentaire de la population s'en ressent.

Conscient de ce problème, le gouvernement fédéral formait en 1968 un Comité spécial d'étude sur les auxiliaires dentaires. Les propositions du rapport publié en 1971 tendent vers une meilleure distribution des soins dentaires au Canada: plusieurs ont trait à la formation du personnel auxiliaire dentaire, à sa compétence et à ses fonctions. Le Conseil fédéral d'hygiène, organisme consultatif comprenant les sousministres fédéral et provinciaux de la Santé a recommandé que les gouvernements analysent les propositions en vue de les adapter selon leurs besoins et priorités.

Visa-Vie présente un article sur la Saskatchewan où l'on veut compenser la pénurie de dentistes en faisant appeal aux infirmières dentaires; les résultats d'un projet témoin de clinique volante auprès des écoliers et une nouvelle législation permettent d'entrevoir une meilleure distribution des soins dentaires dans cette province.

La Saskatchewan compte plus de 926,000 habitants dont 90% sont massés au tiers sud de la province. L'indice dentiste-population y est de 1 pour 4,450 habitants. La moiteé des 209 dentistes de cette province exercent dans les deux principaux centres, Régina et Saskatoon, où habite plus d'un quart de la population totale. Près de 650,000 habitants vivent diséminés dans le reste des grandes plaines. Ils sont desservis par 94 dentistes, ce qui représente un indice de 1 pour 7,000 habitants. Selon les conseillers dentaires, le rapport idéal serait de 1 dentiste pour 1,500 habitants. Une enquête sur les soins dentaires en Saskatchewan en 1968 avait montré que:

- dès l'âge de sept ans, 76% des enfants soumis à l'enquête avaient besoin d'obturations et 39%, d'extractions;
- 75% des enfants de 11 ans devaient faire obturer des dents permanentes et 26% avaient des dents permanentes cariées qui devaient être extraites.

De là, on a conclu que l'enfant moyen en Saskatchewan devait subir quelque trois heures de traitement pour que son état de santé dentaire soit satisfaisant.

On admet généralement que, grâce à la fluoration de l'eau, on peut faire diminuer le nombre de caries dentaires. Or, 120 localités de la province, qui représentent près de la moitié des centres susceptibles de prendre une telle mesure, ont fluoré leur eau.

Certains pays, devant pareille situation, ont formé des infirmières dentaires grâce à un cours spécial de deux ans. Celles-ci assurent l'éducation en hygiène dentaire des enfants jusqu'à l'âge de 12 ans et leur prodiguent les soins voulus. Depuis 1921, la Nouvelle-Zélande fait appel avec succès aux services de ces infirmières pour assurer les soins dentaires aux écoliers. Quant au Royaume-Uni, il forme cette catégorie d'infirmières depuis 1961.

La Division de l'Hygiène dentaire du ministère de la Santé publique de la Saskatchewan entreprenait en 1969 un projet de recherche approuvé pour une période de trois ans. On voulait déterminer l'utilité des infirmières dentaires pour assurer, dans un milieu rural, des soins préventifs et thérapeutiques aux écoliers jusqu'à 12 ans. La recherche a été financée par une subvention nationale à la santé octroyée par Santé et Bien-être social Canada.

L'expérience a été faite auprès de l'unité scolaire d'Oxbow, dans la région de l'extrême sud-est de la Saskatchewan. On a recruté deux infirmières dentaires britanniques expéritmentées et compétentes pour dispenser les soins, à la clinique roulante, sous la supervision d'un dentiste. Trois assistantes dentaires certifiées ont été également embauchées. En plus de l'aide qu'elles apportent au dentiste et à l'infirmière, elles ont dispensé un enseignement individuel sur l'hygiène dentaire et se sont occupées de soins préventifs. Une préposée à la réception tenait les livres et les dossiers et fixait les heures de rendez-vous.

Une caravane de 66 pieds de long, divisée en trois aires de travail, en plus d'une aire de radiographie, logeait l'équipe qui disposait d'un équipement dentaire moderne et complet. Lorsque la clinique volante séjournait dans une localité, elle s'installait toujours près de l'école primaire.

L'équipe invitait d'abord les parents à inscrire leurs enfants au programme. Les participants étaient ensuite examinés par le dentiste, puis dirigés vers les infirmières qui dispensaient, traitement dentaire et soins préventifs.

Plus de 5,700 enfants ont été ainsi soignés au cours des 31 mois de l'exercice. La dépense initiale s'est élevée à $37 par enfant et le coût des soins d'entretien s'est chiffré à $28 par enfant par année.

A la fin du programme, soit en mars 1973, on a évalué l'effet de cette action sur l'hygiène dentaire de la population. L'enquête a montré que 95% des écoliers de la région s'étaient inscrits au programme; les infirmières dentaires étaient donc bein accueillies dans la localité. En termes statistiques chaque enfant avait, en moyenne, moins d'une dent permanente cariée, alors qu'auparavant, il en avait près de trois.

En juin 1971, un nouveau gouvernement était élu en Saskatchewan et au nombre des services de santé promis, figurait un régime d'assurance dentaire destiné d'abord aux moins de 12 ans.

Le succès du programme d'Oxbow jaugé à la fois par l'accueil favorable de cette nouvelle méthode de soins et par l'amélioration de l'état dentaire des enfants, a incité le gouvernement à établir une école de formation pour infirmières dentaires à Régina.

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DENTISTRY — ROUND OR SQUARE?

Joan T. Conklin, B.S., M.S.
Miss Conklin is the Education Co-ordinator for the College of Dental Surgeons of B.C.

For most people, when asked to plan for the future, the time span includes or covers a one to two year period. In our own field of dentistry we are really very good about planning for a period of time that covers "six months". Why, we even help other people to think and plan within a "six month" period. Beyond the six months we don't promise anything. There are some people who we can't even trust beyond three or four months. In dental education, we are a little better. Planning usually covers at least a year in most cases. Once in a great while we will see a five year plan that includes expansion of facilities, an increase in the student body and curriculum changes. In 1920, when the Soviets came up with a five year plan, the rest of the world was struck with the thought that this was an insanely futuristic idea.

How does this short range style of planning affect the world scene? The world seems to be handling its affairs much the same as usual. Unfortunately, what this means is that the world has not taken into consideration that changes are occurring at an uncontrollable rate. Each year the rate increases. According to Alvin Toffler in his book, *Future Shock,* "In a world of accelerant change, next year is nearer to us than next month was in a more leisurely era."

Another writer put it this way, "We carry out more activities in a day than the cave man did in his lifetime." We are having to adapt and adjust many more times and at a much faster rate than we did at the turn of the century or even five years ago. The effects of a decision made during a more leisurely era were gradual. Today a decision has drastic effects assisted by our world-wide communications and transportation capabilities and a value that seems to suggest change for change sake. Louis Lundborg, retired chairman of the Board of the Bank of America, in commenting on the U.S. energy crisis suggested that the reason so many of our young people have been rebelling against the establishment is because they are really protesting growth for growth's sake.

What Toffler is suggesting, and I agree with, is that our style of planning has been and still is for the most part, short term. We never think more than a few years ahead. This should be of great concern to us today because our present generations are capable of living longer than any previous generations. We also have much more available knowledge than other generations to affect our future.

What are some of the consequences of short term planning?

— Why, when we have put billions of dollars into our welfare programs have we created dependent, crippled clients?
— Why are youth dropping out of society and joining communes that are more easily identified with the past than they are with the future?
— Why have we spent billions of dollars to build highways only to cause some of the worst traffic problems in history?
— Why do we treat patients every six months only to have them get worse?
— Why do people who have received regular dental treatment during their lifetime exhibit a mouth full of removable, simulated teeth of one sort and another by the time they are 65?

Short term planning cannot deal with the consequences of its decisions at a time when an extended future is an availability. With accelerated activities and decisions we very often have accelerated changes as a result. Many of the changes are inadvertent, unplanned and capable of disaster over an extended period of time.

It appears that society is beginning to feel dissatsifaction over the results of short term planning. Part of the reason for this may be the availability of education beyond the secondary level. Education has raised society's expectations for the future. Society is no longer satisfied with the consequences of short term planning and the resulting chaos.

What are some of the indicators of dissatisfaction? Much of society has a need to revert to the past. Our clothing styles exhibit this need. Advertising that depicts flapper days demonstrates a nostalgia for the past. Many people have given up on the scientifically based projections for the future and have taken up the study of mysticism and astrology. Yoga, seances and witchcraft are favorite pastimes. To individuals wrapped up in these activities there is no future. A book such as *Future Shock,* has no relevance for the flower children. It is a bore to them. They are now people. Most of us are now people with a regard for "do your thing now with no thought for the future because there is none." We are running out of control. As one frustrated member of British Parliament stated, "Society's gone random." This does not mean that we do not have a pattern of activity, but it does mean that the outcomes of social policy are erratic and unpredictable.

Running out of control sounds quite frightening to say the least. According to Toffler, if we do not like the results of short term planning, it is in our power to change this course of action that is responsible for affecting our extended future. Change is a result of planning that produces an action. We are capable of managing change. Toffler tells us that, "the management of change is the effort to convert certain possibilities into probabilities in pursuit of agreed-on preferables." To ensure positive, responsible results from change, that is, results that consider an extended future, it is absolutely necessary to employ long range planning techniques.

There are three essential components necessary to affect the accuracy of long range planning. One, is the

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Presented at the CDA Conference on Dental Auxiliaries, January, 1974.

technological advances to permit the collection, recording, analysis and the probable outcomes for the future. We now have access to such a system. Two, is accurate programming. It depends on the ability to find facts that are accurate in themselves and feed them into the computer analysis system. Three, is to involve many different people from many different disciplines and get large numbers of people involved in the decisions regarding which preferables or which projections are going to be pursued. All three components are interdependent.

Accurate programming then is dependent upon knowledge. Knowledge tends to emerge from areas or disciplines and these are in a constant state of change. Man used to acquire knowledge in areas in which he had a particular self interest. Our laws of gravity as they were stated by Galileo is such an example.

The tendency today differs in that the focus is on a particular problem and men are brought in who are capable of finding the necessary knowledge about that particular problem. The shift is from knowledge for knowledge sake to knowledge for the sake of solving problems.

Peter Drucker tells us in his book, *The Age of Discontinuity,* that we are moving away from existing departments and disciplines. In one example, "We are designing organic crystals in which inorganic chemistry as well as physics is brought to bear on organic substances." Drucker also states that, "Every single one of the old disciplines and faculties is going to become obsolete. The fact that we are shifting from an accent on parts and elements to an emphasis on wholes and patterns, challenges every dividing line between areas of study and knowledge."

These knowledge trends are very necessary to long range planning. To examine the field of dentistry and the client system served, what disciplines are reflected and how are they utilized? Looking at dental and hygiene curricula, I notice a good representation from the physical sciences and from the medical sciences, but with a noticeable lack in the area of behavioral sciences. Many disciplines are employed to solve such problems as occlusal adjustment, crafting a prosthetic appliance, abrasiveness of polishing agents, the effects of instrumentation on the soft and hard tissue structures and improvements in the materials used in dentistry. The medical sciences give us a greater understanding of the physiology of the client system. By the way, what characterizes this client system? I believe that in the broadest sense, it is characterized by representative systems — physical, social, psychological and emotional, that all interact and are combined to create a unique whole. Therefore, I see that long range planning is just as necessary for the total health and well being of the client system.

What trends are beginning to take place in dentistry that are indicative of the kinds of changes mentioned by Toffler and Drucker? In some locales dentistry has long-range planning committees; barriers are beginning to disappear within the discipline of dentistry; consultants representing other knowledge areas such as economics, statistics and health delivery systems are being asked to participate; proposals have been accepted to include the consumer or client system on various councils. But are these changes occurring in the presence of planned changes which include the use of technological advances necessary for analyzing possibilities based on accurately programmed facts acquired from a broad sampling or are they happening because of internal and external pressures? Unfortunately, as I see it, the latter is responsible for the changes that are occurring.

Look at the chaos that exists right now over the issue of expanded functions and over who is going to perform them. There is careful study going on in reputable institutions that are funded with government grants to determine what functions are to be delegated and the feasibility of doing such. But before any of that activity was undertaken, other questions should have been answered first. We should have employed consultants, experts in think tank procedures. Surveys containing the type of questions that would yield a response indicating how a large general sampling envisions the general direction of the knowledge area should have been utilized. Instead, most surveys ask specific questions on specific issues that allow only a small sampling to determine the general direction of our knowledge area.

All possible alternatives should be explored and then an agreed on preferable established. The preferable represents the general goals and directions of the knowledge area with a consideration of all possible outcomes resulting from such a preferable.

These trends that are occuring right now are also affecting the future. By projecting twenty to fifty years, which is Toffler's definition of long range, it is possible to envision a knowledge area that draws on many disciplines for the purpose of achieving and maintaining a comprehensive state of health and well being for our client system. It will be necessary to gradually decrease the separate powers of our "professional organizations" though it is through them that the following will become possible: to establish a council that represents all aspects of the knowledge area, including representatives from the client system. This council then, will include experts from such disciplines as medicine, physical science, sociology, behavioral science, humanities, dentistry and the consumer public just to name a few. They will be responsible for the effects of the projected preferables on an extended future.

What are the advantages of a knowledge area council? I mentioned the advantage to the client system. Other subsequent areas that would be affected are legislation, education, insurance coverage for the client system and funding just to name a few. Legislation will reflect the kinds of decisions that consider effects on the distant future and relationships to other knowledge areas and social policies. Education itself will reflect knowledge areas that require input from many different disciplines. Insurance policies will reflect a comprehensive plan for total health and well being with an emphasis on preventive measures. Funding for dental care will no longer experience the kinds of problems it is facing today because dentistry will be considered as

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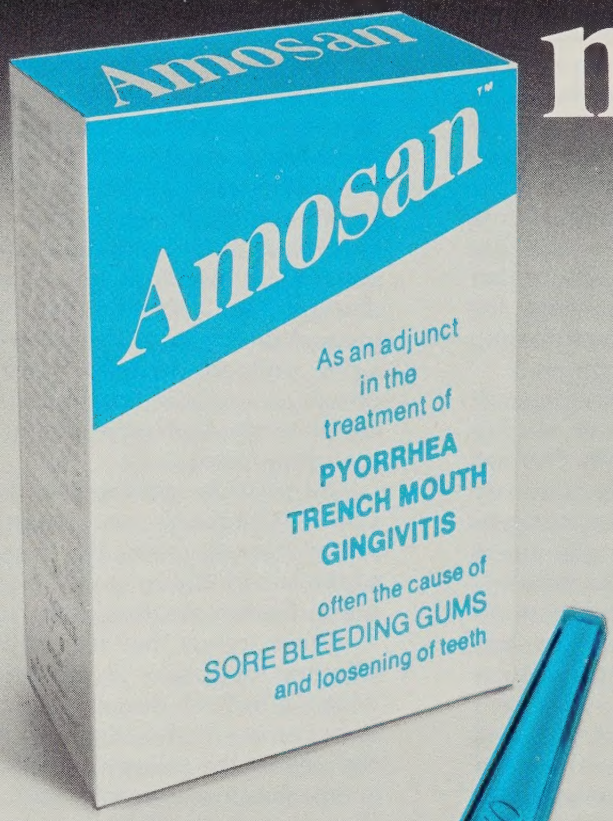
The healthy mouth.



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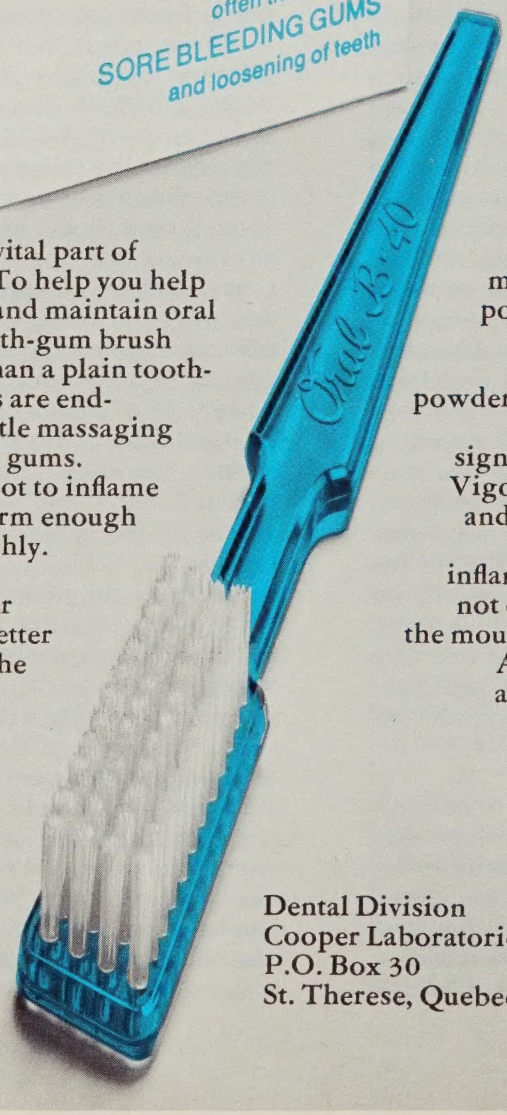

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HEALTH CARE IN CANADA TODAY

John F. McCreary, M.D., F.R.C.P., D.Sc., L.L.D.
Dr. McCreary is the Co-ordinator of Health Sciences at the University of British Columbia.

It seems a bit presumptious for someone from the medical profession to talk to such a distinguished group of the dental profession and their colleagues about health care. The only possible justification that I can find is in my advancing years. The only advantage that I have found with increasing age — amid many disadvantages — is that a certain perspective is developed which can probably be bought at no lesser price.

At the outset I should also apologise because I am going to talk mostly about medicine — in part because that is the area that I know and, in part, because the changes that have happened in medicine happened later or are about to happen in dentistry.

In order to examine health service in Canada today and to postulate what may happen in the future it is necessary to look at what has happened in the past and the forces that have brought about change.

Perhaps the best way to do this is to briefly examine health services as they existed one century ago, and then trace the changes and the causes of change which have occurred since that time.

In the waning years of the last century health care was primitive indeed. Of the remedies used by the physicians at that time only digitalis for heart disease and quinine for reducing fever have proved to be of any value whatsoever. Everything else that was used has long since been discarded. No surgery was done except of the most minor nature and in the most outstanding academic centres. Physicians were few in number and were located largely in cities. Thus the rural population might be born, live their lives, and die from unrecognized causes, never having been seen by a physician. In urban areas the well-to-do had access to whatever little the physician had to offer and the poor received reasonable, but demeaning, treatment in hospital out-patient departments. The great majority of the population, however, which lies in between, considered seriously before they called a physician because of the costs involved.

Although physicians were few in number, dentists, nurses and pharmacists, the only other health professions of that era, were rarer still and two out of three health professionals were physicians. This contrasts very markedly with the present time when less than one of 10 health professionals is a physician and when there are approximately 30 different health professional categories.

In general, one must conclude that health care a century ago was scant, ineffective and extremely uneven.

The first event to begin the rapid evolution in health care which has occurred during this century was the publication of the Flexner Report in 1910. Medical education on this continent began by being totally an apprentice system of one student applying himself to one physician, accompanying him on his calls and working with him in his office. The student took increased responsibility, and at a time appropriate to the student and to the physician, the new physician began to operate on his own. There was no fixed period of time, and there were no fixed number of experiences which the student must encounter. During the 19th century physicians began to realize that if they grouped themselves together in groups of 6 to 12 or even more they could take on significantly larger numbers of students and they could attract very significant fees from the students. Thus medical education became a money making affair and medical schools sprang up in large numbers. In the main they were not attached to universities or to hospitals, the physicians involved had no laboratories in which the students could work. In effect the student assisted the physician in looking after his private practice patients and paid a substantial fee for doing so. As a consequence of this mushrooming of medical schools of dubious value there were in the year 1908 over 250 medical schools in the United States and Canada. At that time the Carnegie Foundation was asked by the American Medical Association if it would undertake a review of medical education. The Carnegie Foundation provided an educator — Abraham Flexner — for this purpose. Unannouced he visited every medical school in the United States and Canada and then wrote a scathing report. He recommended that all medical schools that did not meet the following criteria close their doors forthwith: (1) the medical school must be part of a university, (2) the medical school must have affiliation with hospitals for teaching purposes, (3) the medical school must have basic science laboratories, and (4) the medical school must have at least a cadre of full-time paid individuals to organize the teaching in each department within the school.

The impact of the Flexner Report was unexpectedly resounding. Within five years virtually every school which did not meet the requirements was closed and there were then less than 80 schools on the continent.

However, the long-term impact of the Report was even more spectacular. For the first time a solid, scientific base was developed as an underpinning for medical education. For the first time biochemists, physiologists, microbiologists, anatomists and others mixed with clinical colleagues, not only in teaching but also in patient care. With scientists exposed to the vast numbers of unsolved patient problems, research was an inevitable consequence. One of the earliest, major medical discoveries was that of insulin by Banting and Best at the University of Toronto in 1921. Immediately, an inevitably and rapidly fatal disease, diabetes, could be treated successfully. But this was only the beginning. The sulfonamides were developed in the late 1930's and penicillin in the early 1940's. They changed patterns of care over the entire continent within a matter of months. It is difficult for students today to realize the

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Keynote address presented at the CDA Conference on Dental Auxiliaries, January, 1974.

C.D.A. CONFERENCE ON DENTAL

"YOU ARE ON A COURSE OF ACTION"

The above statements made during a series of reactions and summations at the close of the recent CDA Conference on Dental Auxiliaries should serve both as a compliment and an encouragement to the participants who spent three days discussing the roles of dental auxiliaries in Canada. It is a compliment in that it indicates that through the efforts of those present and those who organized it, the conference had critical content, and most important, achieved direction. It is encouragement in that it is now up to every one of who attended and participated to help maintain the "course" established through the conference, and ultimately, improve our dental care delivery system.

The conference enlisted the input of over a hundred participants who represented a broad range of experience and interest. The insight of the specific organizations and interest groups represented helped to identify problems related to dental auxiliaries. By establishing an understanding of what presently exists, the participants were able to consider future potentials of dental auxiliaries, the implications of the changing roles, and finally, through the "think process", were able to propose suggestions for guidelines for dental auxiliary education, licensure and practice in Canada.

The conference left no doubt that the inclusion of auxiliaries is imperative as an integral part of the dental care delivery system. However, the participants did question the lack of adequate information via survey and research to establish with some certainty the extent and nature of dental needs in Canada today, so that dental care could be delivered in the most effective and expedient manner.

When the conference turned its attention to educational considerations involving auxiliaries, it was agreed that dental auxiliary utilization in its present capacity or in extended potential had far reaching implications. Inadequate facilities to train auxiliary educators, lack of portability and standardization of auxiliary programs which includes the absence of vertical or lateral mobility in existing programs, lack of role identification and guidelines for auxiliaries and inadequate education of the dentist and dental students in auxiliary utilization presented as real issues to the conference participants.

During the conference, several avenues for dental auxiliary education were suggested including a verical and horizontal career ladder structure. Such an approach could offer a great deal of mobility, variety and self satisfaction to all persons committed to and engaged in careers as dental auxiliaries.

With the delegation of additional functions to qualified auxiliaries, the participants realized that one must also consider the changing role of the dentist. His responsibility will need to shift from performer of tasks to delegator and evaluator of tasks. Therefore, education of both the practising dentist and the dental student to ensure effective and efficient use of dental auxiliaries will need to become a priority in any long range auxiliary proposal. In addition, continuing education will also have to consider and accommodate existing auxiliaries who may wish to upgrade their qualifications.

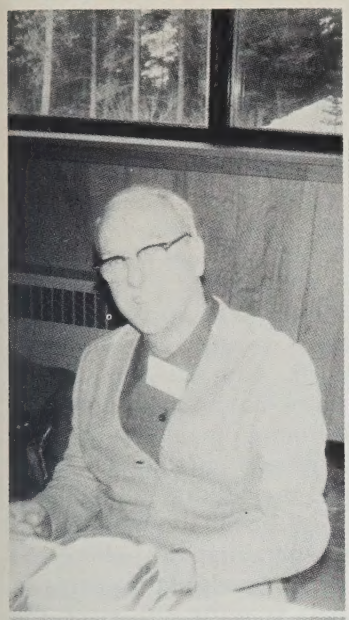
Keeping in mind some of the issues previously considered, i.e. auxiliary portability, role identification and guidelines for auxiliaries, the urgency of investigation into dental needs in Canada and the standardization of auxiliary programs becomes apparent. There must be somewhere along the way, a coming together of provincial interests to serve on a broader scope the national dental needs of Canadians. This implies, in some instances, the selfless forfeiture of long held commitments to provincial regulations which are often restricting and impractical in terms of todays needs. The participants took steps in this direction by suggesting the establishment of minimum uniform guidelines for the utilization and practice of dental auxiliaries as well as the development of a "model practice act" to be offered for the consideration of all provincial regulatory bodies.

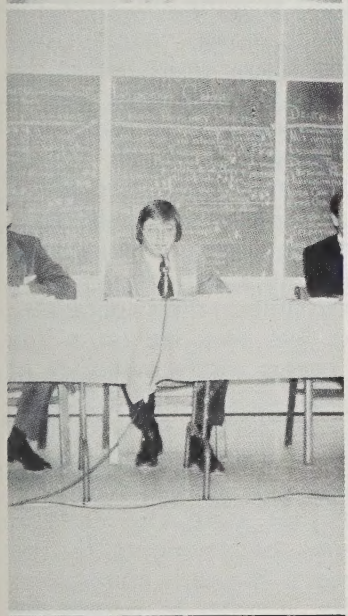
The continuing "course of action" of the dental profession regarding the role of auxiliaries will now be largely dependent upon the communication between dental and auxiliary associations, within dental and auxiliary organizations, between the dental profession and government, and between the dental profession and the public. This will only be achieved through the strengthening and, in some cases, the establishment of effective lines of communication between these bodies, which according to the conference participants have been significantly deficient to date. Dental representation in auxiliary organizations, which is presently nonexistent, and increased auxiliary participation in dental association affairs of mutual concern were put forth as possible solutions to this problem. The responsibility of all dental personnel to create a public awareness of dental care needs and dental care delivery in Canada was emphasized by conference participants.

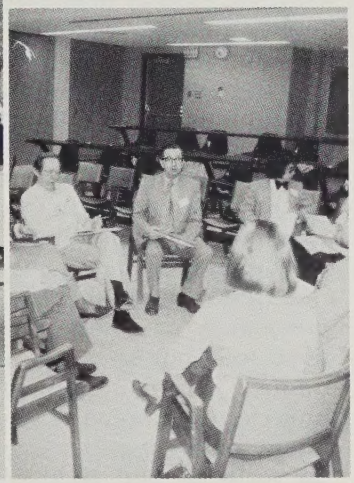
The CDA Conference on Dental Auxiliaries has supplied the first major link in communication among the Canadian dental team. It was therefore an extremely significant event. Hopefully, the future will provide evidence of a continued commitment to the "course of action" begun in Banff that eventually will provide Canadians with a comprehensive dental care delivery system. The enthusiasm and concern displayed by conference participants should now serve as a petition to the Canadian Dental Association to carefully consider the material presented during the conference with a view to the establishment of definite guidelines for the education and utilization of dental auxiliaries in Canada.

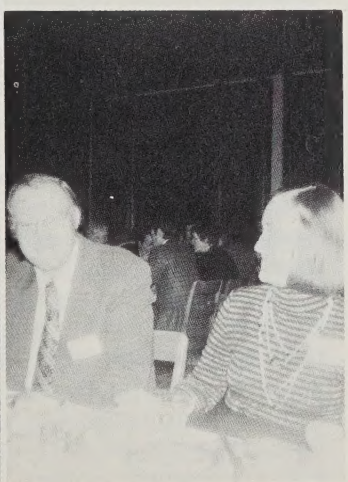
Linda Zambolin
CDHA Public Relations Officer

AUXILIARIES: VIEWPOINTS









FUTURE TRAINING AND EMPLOYMENT OF DENTAL AUXILIARIES

The dental assistant who becomes a dentist may be in the wave of the future if recommendations at the recent Canadian Dental Association Conference on Dental Auxiliaries come to pass.

One hundred and twenty-two delegates at the Conference in Banff, January 23-25, astonished even themselves when results of intensive workshop discussions were tabulated. Dentists, who represented all phases of the profession, in practice, education and government, found themselves in general agreement that there is inadequate education in dental schools on the proper utilization of auxiliaries and that duties could and should be expanded. The idea was broached that only the diagnosis and prescription of treatment for a patient could not be delegated to an auxiliary person, by the supervising dentist, as leader of the dental care team.

Dental nurses, assistants, hygienists and technicians gave favorable consideration to the principle of there being only one type of basic auxiliary, whose education could continue through to a doctorate degree on a vertical career ladder. For the auxiliary who wanted expanded duties in the specialty fields of dentistry, there could be lateral career training in preventive and restorative dentistry, periodontics, prosthodontics, and orthodontics as well as other specialties.

Delegates represented provincial dental organizations, licensing bodies, educational institutions and government agencies as well as the Canadian Dental Hygienists' Association, the Canadian Dental Nurses and Assistants' Association, dental technician and laboratory groups.

The conference was called to establish guidelines on the short and long-range objectives needed for the education, licensure and practice of dental auxiliaries in Canada.

"The need for such objectives is great since present auxiliary services are expanding rapidly and new concepts are being developed without overall coordination," said Dr. E. F. Allison of Calgary, chairman of the organizing committee.

Other members of the organizing committee were Miss Marjorie Weich, past president of the Canadian Dental Hygienists' Association and Dr. D. E. MacFarlane, member, Canadian Dental Association Council on Health Care.

Major points to emerge were the need for alignment of provincial legislation on auxiliary functions; the development of new educational paterns to provide the necessary vertical and lateral career development of auxiliary personnel; joint education of dental students and auxiliaries to teach full utilization of auxiliary skills in dental practice; national accreditation of all programs to achieve Canada-wide mobility of trained people; and education of the public to accept care given in the hands of an auxiliary.

Patricia Lundie
CDA Public Relations Officer

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excitement of those years. When I was a resident physician in hospital lobar pneumonia changed from being a deadly killing disease to being virtually harmless. Prior to the development of penicillin lobar pneumonia was a disease of young adults; it infected many during the course of the winter months each year and it killed fifty percent of all patients who caught it. Within months of the development of penicillin, lobar pneumonia could be cured in a matter of 24 hours. I was a paediatrician in those days and infantile diarrhoea was a scourge. During the summer months it ran rampant through hospital populations of infants. Thousands of young infants came to hospital frequently for minor surgical treatments, caught this infection and died. Again, within a year of the development of certain of the antibiotics infantile diarrhoea was virtually wiped out. Some of you will remember the terror with which parents greeted the late summer when poliomyelitis became more or less epidemic, depending upon the year. Working in a children's hospital over 30 years ago I saw over 3000 cases of infantile paralysis in a two month period. Of these the majority were left with some impairment of motor function or lost their lives. Infantile paralysis, as you know, was wiped out within months of the development of a vaccine.

One could go on almost indefinitely with a description of the disaeses that became curable or controllable during these years, particularly since 1940. When one adds the surgical techniques that have been developed — open heart surgery which is just now beginning to be utilized to a major degree and organ transplant which will reach the stage in the not too distant future when in theory at least a person could be kept alive almost indefinitely by simply replacing worn out organs — one can begin to appreciate what a very different and more effective process health care has become. And with these changes in the patterns of health care, changes in goals have occurred. The original goals were simply to assist a family through some distressing event — the sickness or death of a child or parent — when the physician could do virtually nothing to interfere with the progress of the disease. As more effective treatments became available the goal of medicine became the treatment of disease in an active and usually in an effective way. But in recent years the goals have been expanded very significantly. The World Health Organization feels that the goals of health care are to derive a state in which each individual is in a condition of physical, mental and social well-being. Quite obviously these goals are not within capabilities of the medical profession to provide. To achieve the World Health definition of good health one must have a job that is satisfying and rewarding, one must have a home that is pleasant to return to at the end of a day, one must live in a community where pollution has not become a serious problem. So health today has gone far beyond the medical profession. It has also gone beyond the health science professions and must include engineers, town planners, economists and virtually every discipline that exists.

But even those goals which could be achieved by medicine are not being reached. Medicine is still sickness-oriented rather than health-oriented. Dentistry is considerably more prevention minded than medicine for reasons which I believe I can explain later.

So the Flexner Report has had a tremendous impact on the quality of health care. Although my remarks have referred to improvements in medical education and care, the same changes took place in dental education, nursing education and in all of the health professions with corresponding advances in the quality of care.

One of the major factors which has influenced health care in Canada has been the actions of the federal government and the areas which it has elected to support from tax dollars. To some degree governments have always been involved in support of health care. The British North America Act is fairly vague on this subject but it states that provinces must be responsible for the establishment, maintenance and operation of hospitals, asylums and charities for those within the province, and that the federal government will be responsible for marine hospitals. However, it does not go beyond these generalities in spelling out the responsibilities of the various levels of government. In fact in Canada's early years governments were not particularly interested in health. It was not until 1918 that the first Ministry of Health was developed in the Province of New Brunswick, the following year a Federal Ministry was put into operation, and then rapidly the other provinces followed suit. Until the year 1948 government participation in health care consisted of Municipal and Provincial Governments assisting in the support of hospitals which had never been able to charge large enough fees to a sufficiently high percentage of their patients to support their operations. All the rest of health care was provided on a free enterprise, entrepreneural system with a multitude of private arrangements between patients and physicians.

In 1948, however, it became clear that techniques of prevention of disease and of treatment had been developed but were very unevenly applied across the nation. Accordingly, at that time the federal government began a series of payments to the provinces for specific purposes. The early grants were for maternal and child care in order to permit the establishment of free prenatal clinics and well baby clinics; tuberculosis case finding in order to remove cases of active tuberculosis from the population; venereal disease control in order to find the cases of venereal disease which were now readily treatable. The impact of these early grants was immensely gratifying. The new funds permitted the provinces to engage public health trained physicians, dentists, nurses and others. As a result, the quality of those services which the grants were intended to strengthen increased rapidly and within a short time the preventive and curative measures involved were being applied at a high and at a standard level across the nation.

The second major involvement of the federal government in health care was the development of the Hospital Insurance and Diagnostic Services Act in the year 1957. This Act, through a complicated formula, provided approximately fifty percent of the costs of acute hospital care to be given to the provinces from the federal government coffers. The grant was confined to

in-patient care in acute hospitals and to out-patient diagnostic services. The same sort of support was not available to T.B. sanatoria, mental health institutions or custodial care institutions. The grant was open-ended. That is, a province could spend any amount of money that it wished on acute hospital care and the federal government was required to provide fifty percent of the funds. The result of this new grant was also specatular. Hospitals in Canada were in all too many areas few in number, ill-equipped and inadequately staffed. Changes for the better occurred rapidly and now the hospitals in most areas of Canada compare favourably with any in the world.

The third major commitment by the federal government to the provinces came as a result of the Royal Commission on Health Services and its recommendations that medical care be supported from government funds. This legislation was enacted in 1966 and again required the federal government to match the provincial governments' costs in providing medical care to the people of the provinces. There were certain restrictions on the use of these funds. The medical care must be provided by a physician and not by a nurse, social worker, dietitian or pharmacist. The physician must be reimbursed on a fee-for-service basis. There should be no question that the government's intervention in this field has brought to the people of Canada an extensive ability to utilize medical services. The problems which have arisen have been largely concerned with transients who have not established residence in a given area, and with the provision of the same quality of medical care to people in sparsely populated northern regions, which do not attract physicians as do the urban areas. Neither of these problems have been solved. However, there can be no doubt whatever that the economic problems of serious illness have been lifted from the shoulders of the individual Canadian.

These, then, are the major areas of health support provided by the federal government to the provinces. What has been the impact of these services? It is probably safe to say that no one can realize in advance what the impact of a powerful government with extremely large sources of funds can be when it becomes involved in what has essentially been a free-enterprise market economy system. Certainly, every new adventure which the federal government has undertaken has had a significant impact on Canadian health care.

If we go back to those first health grants initiated back in 1948 which were so helpful in permitting the provinces to even up the quality of their preventive and other public health services we find that they have caused a split in the way in which health care is delivered in Canada. With the funds from federal sources the provinces set up public health clinics, well baby clinics, maternity care clinics and a variety of other government sponsored programs. In these programs the physicians were salaried rather than on a fee-for-service. The nurses, dietitians, social workers and others were involved in a health team activitiy and very much of the work that was done by the physician in the curative aspect of health care was done in the government service by other members of the health team whose education and services were less costly. At the same time that this was going on the free enterprise "unsystem" was continued in relation to curative medicine. The result has been a complete split of the two types of service and a general lack of comprehensiveness in the care given. This unnecessary fragmentation has resulted in some individuals being lost in the area between the systems with detrimental effects on their health. However, of far greater import has been the fact that the great bulk of practicing physicians feel singularly little responsibility for preventive programs. After all there is a group of health professionals "over there" being paid good government money to do the uninteresting preventive work! This has been a major reason for the lack of interest in prevention to which I have referred and it has undoubtedly reduced the effectiveness of the Canadian health care system!

However, the federal government action which has had the greatest impact on Canadian medicine was the introduction of the Hospital Insurance program in 1957. Again, the program was introduced with the best possible motivation and, again, the short term results were spectactularly successful. What the government did not take into consideration at that time was that the provision of health care represented a spectrum. At one end of the spectrum is the least costly form of health care, primary health care provided by the physician in the patient's home and the doctor's office and requiring no more expensive equipment than what the physician carries in his bag or what is available in his office. The next part of the spectrum in outpatient diagnostic services for patients who have a need for disgnostic facilities more sophicticated than those usually found in a physician's office. The patient does not require to be admitted to hospital but does need to have access to its facilities. The next segment in the spectrum is acute in-patient care. This should be a relatively small slice of the spectrum and reserved for those patients who require nursing care throughout the day and night as well as expensive facilities which are present in an acute general hospital. The next segment is extended care. This is a form of hospital care which does not require expensive facilities but which does require the presence of physicians and nurses, simple x-ray departments and the like. It is the sort of care which a patient with a fractured hip who is immobilized and in traction might well require. The next segment is nursing home care for patients who do not require the presence of physicians but do require assistance in maintaining themselves — dressing, undressing, use of the toilet, etc. The next to last segment is boarding home care for patients whose homes are such that they cannot provide their own meals. They can, however, dress and undress themselves and look after themselves in all other ways. The final segment is hospital home care. This is the term applied to the type of care which is required when a patient is returning to a home which is not sufficiently equipped or staffed to look after him at that time. Under these circumstances it is frequently true that a nurse dropping into the home twice a week,

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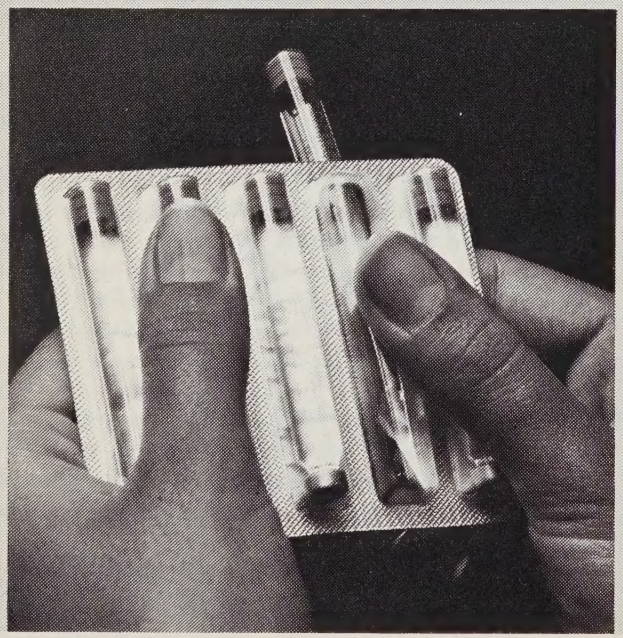

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or a housekeeper coming in every second day, can make the home perfectly satisfactory as a place for convalescene or for long continued chronic care.

When the most expensive part of the spectrum — acute hospital care — was singled out for support from public funds it produced a situation in which all of the incentives were to use the most expensive form of health care possible. Although the federal Act permitted the support of out-patient diagnostic services as well as in-patient care, in my particular province the out-patient diagnostic service was not utilized. As a result many patients were admitted to hospital where they would remain for two or three days at a cost to them of a dollar per day, in order to have diagnostic activities undertaken which might well have cost them $50 or more if they had remained outside of hospital. Also, because there was no coverage for extended care, nursing home care, boarding home care and the other less costly forms of care on the right hand side of the spectrum, individuals were kept in hospital for a much longer period than would otherwise be necessary. In fact the length of stay in Canadian hospitals is approximately forty percent higher than it is in American hospitals, and it would appear that we might be able to do with forty percent few hospital beds had we not built this sort of incentive into the use of acute hospital care. As it was, however, it was to everyone's advantage — the community's, the patient's, the physician's — to keep more and more patients in hospital. As a result the costs of hospital care in Canada are higher than in any other country. This does not apply to the per diem rate but to the overall costs to the nation.

The introduction of government support for medical care in 1968 has also had a marked impact on the costs of care in Canada. It has removed all economic barriers towards individuals requesting medical care. Unfortunately, from the point of view of health care costs it is provided with no checks and balances. Any patient can demand any amount of medical care which he imagines that he requires and it will be possible to pay for that care. Any physician can provide any amount of care which he thinks to be necessary and funds will be found to pay for it and the federal government will be required to put up fifty percent of these funds. There is little wonder that costs of health care have escalated in the years since Medicare was introduced. Again, we find that we have produced the wrong incentives. There are certain constraints under which the federal government will provide fifty percent of the costs of health care. The first is that the care must be provided by a physician. The care cannot be provided by a nurse, a dietitian, rehabilitation therapist or any of the other indivudals who become so well integrated into the public health system. Secondly, the care must be provided on a fee-for-service basis. It is inevitable that the manner of remuneration for health care has an impact on the type of health care that is delivered. With a fee-for-service system the physician is remunerated for repetitive acts which must be performed sufficiently speedily with enough of them crowded into a day to provide for his overhead costs and to give him a reasonable income. This pattern precludes the possibility of some types of health care. For example, many physicians, particularly recent graduates, would find it extremely rewarding to be able to sit with a family and try to work out its emotional difficulties in living together. This might require several sessions of two or more hours each. Under the exisiting system of payment the physician simply cannot afford to provide this type of care, valuable as it might be.

Generally nations espouse one of two types of health care. One is the market economy or entrepreneur type which was in effect in Canada prior to the introduction of the government into support of hospital care and later medical care. This type of health care has many disadvantages in that large numbers of citizens will not, for economic reasons, allocate funds for this purpose with resulting damage to their own health. The second type of health care is totally government organized and the best example of this is found in the United Kingdom. Here we find the most generous form of health care available anywhere in the world. It provides not only for the entire spectrum of health care to which I previously referred, but also provides for medication, spectacles and a great variety of other fringe benefits. Had checks and balances not been built into the system the costs could have escalated to the point where government simply could not afford to maintain their programs. However, a number of checks and balances were built in. In the first place, for approximately 25 years after the plan came into being no new hospital beds were built. Many hospitals were updated and improved with better equipment but no new beds were built. The result is that many individuals who require elective surgery for something which is not interfering seriously with their health may wait for months or years before they can be admitted to hospital. However, on the other side of the coin the British system has put hospital care in the hands only of specialists. Family physicians are not permitted to care for patients within hospital. Further, the specialists have been strongly impressed with the fact that they must make the most effective possible use of hospital beds. As a result if one were ill with a serious ailment requiring hospital treatment, I expect that one could receive as effective hospital treatment in the United Kingdom as any place in the world, and under these circumstances a bed would be made available. A third way in which the government of the United Kingdom controlled costs was to control the number of specialists. As many people as wished to can train to become specialists; however, the only ones that will be permitted to practice as specialists and receive the fees paid to specialists will be those who have been specifically appointed by health boards to a specific number of posts available within the country. This has had the result of turning over the bulk of health care to the less costly family physician and further to reduce the escalation of costs.

Canada has not followed either of these two recognized plans. With the introduction of tax supported hospitalization and Medicare, Canada has embarked upon a subsidized entrepreneural system. We have taken a free enterprise system and have established for it a socialistic method of payment

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without any of the checks and balances normally contained therein. The cost of care rising rapidly is totally inevitable under the exisiting circumstances.

So each of the three major adventures of the federal government into assisting the provinces with health care costs have had a very strong influence on the nature of health care in Canada. In each the motiviation has been of the highest, in each the short term effects have been magnificent, but each has produced complications which present serious problems.

At the present time in Canada we are spending a higher percentage of our gross national product on health care than any other nation in the world. By every method of evaluation that can be applied — infant mortality, longevity, physical fitness — we are not receiving value for that huge investment. We are caught in a system which emphasizes the most costly form of hospital care, which allows only the most costly individual — the physician — to provide care and in a method of payment which cannot help but encourage over-servicing and over-use.

If I have appeared to be critical of governments in this presentation I do not wish to leave with that impression. I believe that every action that has been taken by the federal government has been motivated by the very best of intentions. Perhaps the only way in which we can make progress in these relatively uncharted seas of government and personal participation in health care is to make mistakes and attempt subsequently to correct them.

So our present situation in relation to health care in Canada is an unhappy one. And perhaps the unhappiest of all groups is the federal government. It is in the unfortunate position of being required to provide 50% of an unknown sum of money which will be spent each year by the provinces on hospitalization and medicare. These sums of money have escalated with great rapidity year after year. Advisors to the federal government, including the Economic Council, have warned that the nation's economy will not continue indefinitely to withstand such sustained pressure.

And the government is attempting to change this, to it, unpleasant situation. It has suggested to the provinces an entirely different approach towards financing health care. It would prefer to pay to the provinces a flat amount of money each year to assist in supporting health care. The suggestion is that the amount of money would increase at the rate at which the Gross National Product increases. This would reduce the annual increase from federal funds from something of the order of 14 to 15% downwards to about 9.5%. In addition the federal government would establish a fund of 640 million dollars which would be distributed to the provinces on a per capita basis for support of experimental programs in health care delivery. A part of the offer from the federal government was that all constraints on the nature of health care would be removed and the provinces could do as they wished. So far the provinces have declined to accept the offer. However there can be no doubt that other similar offers will be made and sooner or later, the present constraints on care which tend to force the costs upward will be removed.

When this happens health care will change rapidly. It will undoubtedly vary from province to province but the major factor will be the cost controls that will certainly be built into the system. Instead of encouraging only the physician to provide health care we can expect that every effort will be made to have nurses, social workers and other less-costly-to-educate individuals play a larger and larger role. Instead of all physicians being remunerated on a fee-for-service system there will almost certainly be a variey of methods of payment. Some may still remain on fee-for-service but others will be salaried and some will probably be paid as in England on a flat annual fee basis regardless of whether the patient is sick or well.

What is this going to mean to dentistry? I think that its meaning is very clear. Denticare did not come into being as quickly as Medicare for two reasons. First the pressures from society have not been so great as for Medicare. Second it has been generally stated and accepted that there are insufficient dentists to provide care if everyone had free access. Both of these situations are changing. Social pressures for Denticare are increasing rapidly. It is increasingly recognized that much of the work done by dentists in the past could be done by dental auxiliaries if they are properly employed. This recognition has first become clear to the auxiliaries and they are becoming increasingly militant and demanding of more responsbility. I fear that, like my own profession, dentistry merits the criticism that it has been over-protective of its responsiblities and rights. Dentistry has made use of auxiliaries but it has been very restrictive on the rights and opportunities to contribute which it has conferred on them. I doubt that this will be permitted in future. There has been a mystique which has surrounded our two professions over the years. In a rather unique manner it has protected us from societal pressures. Society has demanded protection from many things — lawlessness and police forces have been organized, fire and fire departments have been formed. Now people are demanding protection from unnecessary ill-health and soon from dental ill-health. Enough of our mystique may remain to prevent our being organized to the degree that police and fire forces are organized but we shall certainly not remain the lordly untouchables that we have been in the past. Society, through its governments, will force us off the untenable position that we and we alone, can do certain things which clearly can be performed by individuals with less costly education.

I do not believe that we should fear the future either in dentistry or medicine. The removal of the easier-to-perform tasks which occupy so much of our lives today will make life more stimulating and challenging both for ourselves and those who work with us.

And so, Ladies and Gentlemen, I welcome this conference. I hope that during our two working days, we can examine the role of the dental auxiliary with openness, frankness and freedom from narrow protectionism. Whatever changes take place in the systems of health and dental care, if it turns out to be best for society as a whole it will almost certainly in the long run turn out to be best for two of the oldest and most respected serving professions.

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ESTABLISHING RAPPORT: PHASE II, THE PATIENT'S ROLE AS "PATIENT"

Edward S. Sterling, D.D.S.

Dr. Sterling is Chief of Pedodontics, The Nisonger Center for Mental Retardation and Development Disabilities, and Assistanct Professor of Pedodontics, The Ohio State University College of Denistry.

Once an individual is seated in the dental chair, he has begun his role as "patient". However, the way he defines that role is a learned process and he begins to learn that process from initial contact onward. He may have to unlearn some behaviors he learned elsewhere or he may be "virgin territory," untouched, unspoiled and just waiting to be taught how to be a patient. Dental professionals are fortunate when they have the opportunity to deal with an individual in the latter category. Pedodontists probably have the greatest opportunity to encounter this and, indeed, it is one of the true pleasures in dentistry.

The fact that the role of patient is learned is valuable and important because it implies change is possible. The hard-to-treat patient can be modified in the same manner the never-been-treated patient learns his role.[1] [2] The techniques and approaches are the same: namely, behavior modification or operant conditioning or learning theory or reinforcement therapy. Different people call it different things, but it is essentially a feedback mechanism which has some basic rules and steps.[3] [4] [5] [6] This paper will deal with the rules and steps in behavior modification.

Dental professionals deal with voluntary behaviors and in any discussion of patient management we are talking about appropriate and inappropriate behaviors. There are two basic rules concerning behavior: (1) Behaviors are observable and measurable; i.e., they are activities an individual does when he is standing, sitting, walking or lying down. They are attitudes; they are not motivations. They are tangible and concrete. (2) Voluntary behaviors are learned. Unlike the knee-jerk or pupillary dilatation and constriction, voluntary behaviors are controlled by what **follows** the activity, not by what precedes it. This is not Pavlovian conditioning of ringing a bell and causing salivation. Rather, it is behavior learned by its consequences, by the feedback the doer of the behavior gets from his action. This feedback teaches him what response or consequence his behavior evokes and whether these consequences are pleasurable, painful, positive or negative. Based on these consequences the individual will determine whether the behavior becomes part of his repertoire or not. An infant has the capacity to learn any language, regardless of his origin; in America, he learns to speak English because those verbal behaviors which are appropriate to our ears receive a strongly positive response.[3] The child who says "da-da" soon learns that when he says "da-da", he gets a pleasant, positive, excited response from those around him. Therefore, it follows that to modify or control a learned behavior, one must manipulate the consequences.

A voluntary behavior may have four consequences:

(1) produces positive or desired consequences
(2) removes or avoids negative consequences
(3) produces negative consequences
(4) removes or avoids positive consequences

The first two (1, 2) will tend to strengthen a behavior or increase the likelihood of its occurrence. The latter two (3, 4) will tend to weaken a behavior or decrease the likelihood of its occurrence. The strength of a behavior is equivalent to the frequency of occurrence. In the dental office there are certain behaviors we desire to occur frequently; e.g., stitting still, keeping the mouth open. Other behaviors we wish would not occur or occur only seldomly; e.g., hollering, wiggling around, closing the mouth. If a behavior is strengthened or reinforced, it is more likely to recur; if it is weakened, it is less likely to recur. Behavior modification functions primarily to strengthen or weaken existing behaviors or combine them in new combinations; generally behavior modification techniques do not create new behaviors per se. Neutral consequences, since they rarely occur, will not be considered in this discussion.

The methods and timing of reinforcement or production or consequences are extremely significant. The reinforcement must be prompt; the more immediate to the behavior, the more effective it will be. To tell a child after the appointment is over that he was good or helpful does little to strengthen desirable behaviors and weaken undesirable behaviors. Many of the early experiments in behavior modification involved pigeons and one of the early problems encountered was inappropriate reinforcement; e.g., pigeons received food from a machine when they pecked at an appropriate colored disk. The timing of the reinforcement was not prompt and, in fact, rather then reinforce pecking, came when the pigeon's head was moving backward, away from the disk. Consequently, rather than pecking at the disk, the pigeon's head-moving back behavior was strengthened. The experimenters modified the procedure so the reinforcement came at the appropriate time and strengthened the target bahavior. If the child is being helpful and cooperating, let him know this at the time he is demonstrating this desirable behavior.

Not all things are equally reinforcing; i.e., there is a hierarchy. Some basic reinforcers are food, physical contact, smiles, frowns, reprimands, a bad grade on a test and esteem from colleagues or peers. This

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Submitted by:
Helen A. Fox, R.D.H.
5491 Worthington Forest Place East
Columbus, Ohio 43229

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Une loi provinciale concernant la formation d'infirmières dentaires a été adoptée au printemps 1972 et le premier cours de soins dentaires débutait en septembre de la même année à l'Institut des arts et sciences appliqués de la Saskatchewan, à Régina. Les étudiants avaient été recrutés de par toute la province; 65% venaient des secteurs ruraux. Trente-six étudiants y sont inscrits dont 35 femmes et un homme. Leurs études terminées, ils aideront à prodiguer les soins dentaires de base aux enfants qui participent au programme qui commencera en septembre 1974.

Le ministre de la Santé publique de la Saskatchewan avait nommé, au mois de novembre 1972, un Conseil consultatif pour étudier la meilleure façon de mettre en oeuvre un programme de soins dentaires à l'enfance par l'intermédiaire des infirmières dentaires de la province. La Division de recherche et planification du ministère de la Santé publique, en collaboration avec la Division de l'Hygiène dentaire, a proposé au Conseil un programme de soins dentaires à l'enfance. Le Conseil a en outre reçu des mémoires de nombreux groupes dentaires professionnels nord-américains. De son côté, le grand public a formulé des propositions à l'occasion d'audiences ou sous forme de mémoires.

Le rapport définitif du Comité consultatif a été présenté au ministre de la Santé pulique en mars 1973. En outre, une loi permettant l'établissement, la réglementation et le contrôle de la profession d'infirmier(e) dentaire a été adoptée par la législature de la Saskatchewan.

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an essential component for the total health and well being of the client system.

The emphasis today is on quantity. How much can be produced with no responsibility for the effects on the future? Long range planning equals quality. Before spending any more money on quantity results, emphasis must be placed on long range planning or the client system will not be represented, agreed on preferables will never be reached, nostalgia for W. C. Fields and utopias that identify with the past will prevail and we will continue to "go random" as our Britisher has aptly pointed out, at an ever increasing rate.

If long range planning is, in itself a change, then, at this conference, let us all take on the responsibility of becoming change agents. A change agent facilitates planned change or planned innovation. In this role, part of our challenge will be to encourage a total self review and an examination aimed at broadening and defining in humanistic terms as well as economical and physical terms, the goals of our knowledge area.

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hierarchy is not constant because of such things as satiation or deprivation. Obviously, if someone has just eaten a large meal, food will not be a very strong reinforcer. The reinforcement must have a value to the recipient; e.g., smiling at a blind person is inappropriate or not as reinforcing as a verbal reinforcer. Lastly, as implied above, there must be a need. Fortunately, in dentistry we are limited primarily to social reinforcement; i.e., a smile, a frown, tone of voice and people do not seem to tire of these or reach satiation. We all enjoy receiving kind words and smiles of approval.

But where does this apply to dentistry and dental health? Disclosing tablets or solution stain the teeth and likewise give a patient feedback regarding how well he is brushing his teeth; the converation of a fearful or resistant patient to an unfearful or nonresistant, accepting patient; the child referred to your office as a management problem whose behavior is changed; these are examples of what and where behavior modification techniques apply to dental health. There are many more. Feedback is the basis and the concept presumes that people will respond to get the kind of feedback they desire.[7] [8] The patient or learner is finding out how he's doing, and the how-he's-doing or consequences of his behavior determines whether that behavior recurs or disappears over time.

Too often in dentistry, we use what is called "aversive control," i.e., as long as the patient is doing what we want, is exhibiting desirable behaviors, we say or do nothing, but when he exhibits undesirable behaviors, we respond with negative feedback. In this contingency, the patient only hears from us when he is out of line with our needs and desires. This kind of arrangement will weaken or decrease the likelihood of undesirable behavior occurring, but a better contingency is to take a positive approach. To inform the patient and give him feedback when he is responding in an appropriate manner is stronger; in short, "accentuate the positive and eliminate the negative." If you don't believe this is a stronger approach, I would ask the following: How do you respond and feel when someone tells you that you have done a job well? How do you respond and feel when someone tells you that you have done a job poorly? Your patients respond and feel similarly. The child who is constantly "put down" soon becomes discouraged and gives up.

These concepts apply to handicapped or mentally retarded patients equally as well.[2] Children, particularly, want to please; they want to receive warmth and loving. They are probably always seeking it although at times it may not appear that way. At the very least, they are looking for recognition; "hey! I'm here!"

Therefore, to treat any patient — adult or child, normal or special — one should follow some basic rules:

1. Set limits
2. Be certain the limits are realistic and the patient is capable of meeting them.
3. Be consistent. Respond appropriately and give consequences appropriate to the behavior exhibited. This means both letting the patient know when he has exceeded the limits and letting him know when he is responding in the desired manner.
4. Make your demands and ask your questions in language the patient can understand. If a child is chronologically eight years old but functioning at a five year old level, it is inappropriate to deal with him as if he were an eight year old. You are dooming both this child and yourself to hassles and to failure. Few children are basically uncooperative; most will do what you request if they understand what is being asked of them.
5. Do not degrade the patient. Particularly with children, it serves no useful purpose to tell a child he is bad or should "grow up." A child is never a bad child; I may not like his behavior but I always like him as a person. There is a distinct difference between these two statements.

Admittedly, there will be patients with whom contact is not made and rapport is not established. It is important to recognize your own limitations and sometimes, in the best interests of all parties concerned, refer the patient elsewhere. However, if you can apply the concepts put forth in these articles, I think you will be please with the results obtained. It has been said that dentistry is one of the most personal services people seek; certainly, it requires close contact for extended periods of time. Whether these periods of time become positive and rewarding for the professional and the patient depends on establishing and maintaining rapport.

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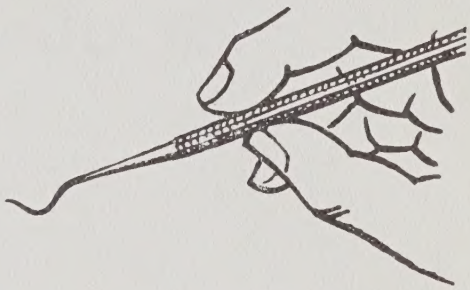

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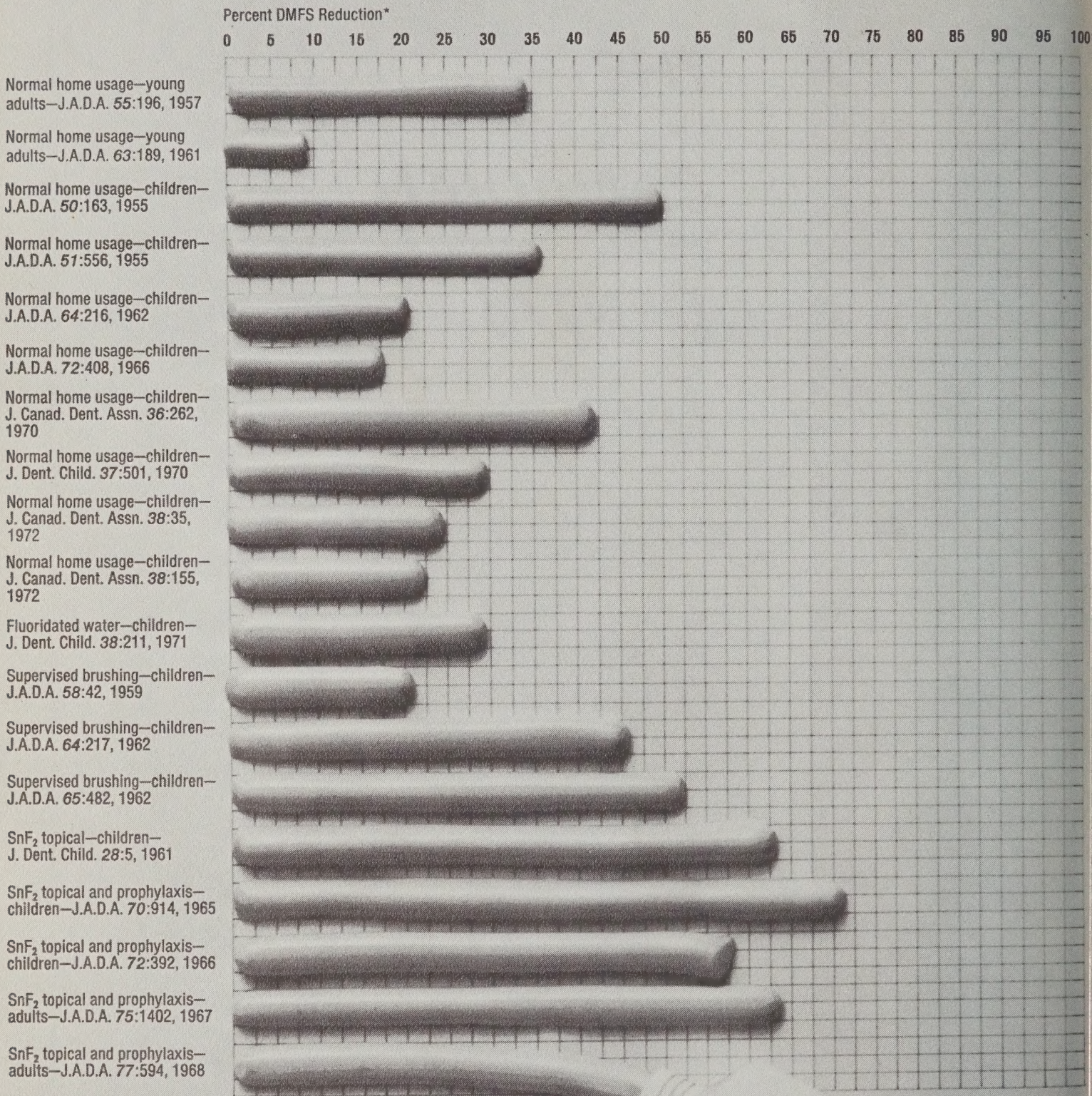

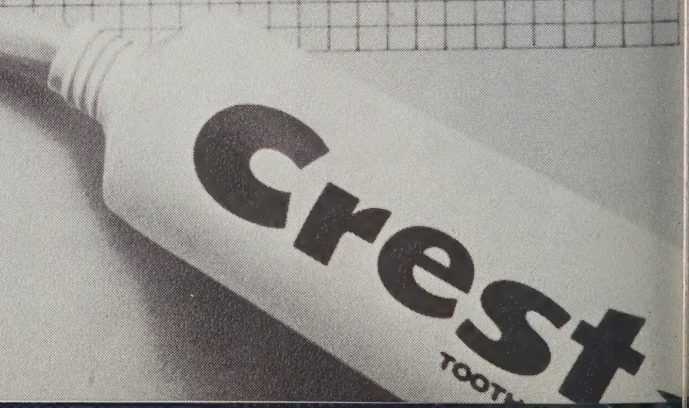

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PRESIDENT'S MESSAGE

Someone once said, "Prejudice is a vagrant idea with no visible means of support". During the past few months I have attended many meetings concerning dental auxiliaries. The "vagrant idea" that seems to be ingrained into present day dental practice is that of referring to dental auxiliaries as "the girls in the office". This terminology was used at the CDA Conference on Dental Auxiliaries, during scientific sessions of provincial meetings, at Board Meetings of professional associations and governing boards. Over and over again one is haunted by the same refrain.

Since the concept is so widespread, I cannot help but wonder if it is only a "vagrant idea", or if it has visible support. When the career of dental hygiene was first developed it was written that the duties should be limited to females, as they are more patient, less aggressive and subservient. (Did you see "A Licence To Do What?" in the CDHA News, March/April?). The dentist was always male; the dental hygienist female. Now we have an ever increasing percentage of female dentists as well as male dental hygienists. And we have an ever broadening awareness of the capabilities of all people.

Surrounded by the opportunities for enlightenment in today's world, it would be helpful to develop new terminology relevant to that world. The definition of the word "girl" includes "a young female" and "female slave". The compatable term for a male dental hygienist would then be "boy". It should not be difficult to find a word that conveys a more desirable image of the professional person, a word that indicates a person who is a participating member of the dental team, who is maintaining competence within their scope of practice, one who puts the welfare of the patient first, and one who treats all people with equal respect. Perhaps we could call this person a dental hygienist.

Sherita Clark

GUEST EDITORIAL

Society, until recently, has held two assumptions: assumptions which have proved wrong but which have stopped people from achieving the potential of which they are capable, especially women.

The first wrong assumption is that only the young are capable of learning: that somewhere in our late twenties somehow our brains start deteriorating and become incapable of absorbing and acting upon new knowledge. This was only really proven wrong after World War II when the veterans came back to attend university and to confound all the pessimists. At the present time thousands of adults in their 30's, 40's and 50's and yes, in their 60's are attending universities and colleges across the country.

At the same time that the realization of adult learning possibilities came about, there was a knowledge explosion which has meant that no professional can rest secure in the belief that he or she "knows" his or her field of expertise. Dr. Samuel S. Dubin, psychologist at the Pennsylvania State University says, "A useful measure for estimating the extent of obsolescence in various professions is the concept of half-life, a term taken from nuclear physics. The half-life of a professional's competence can be described as the time taken after completion of professional training when, because of new developments, practicing professionals have become roughly half as competent as they were upon graduation to meet the demands of their profession. The estimated half-life of a physician is about five years, of an engineer about five years, of a psychologist about ten to twelve years.

It is hoped that in the future, programs and courses will become cumulative in your area allowing you to build on the academic credit you now possess to obtain degrees and to produce the teachers needed to expand the profession. Your formal full-time attendance at a university may or may not be over but the opportunities in Continuing Education are and will available to you to expand the horizons of your knowledge for your own satisfaction and the requirements of Dental Hygiene: If those opportunities do not expand, you should press within a professional organization for universities to respond to your needs.

The other mistaken assumption which our society has held is that the education of women was really a lost cause as their role in life was to find a man, get married and live happily ever after, and that, presumably the female of the species should obtain all her feelings of accomplishment and success vicariously through the accomplishment and success of her husband and children. Besides putting an impossible load on husbands and children, this has not been enough for many women. Children grow up and leave home, marriages break up, women live longer, and there is a more affluent society which

has taken many of women's functions as a home administrator away.

It is true that many women are content with a life as wife and mother but at the same time no woman today can assume that she will never have to work or support a family. Whether from family break-up, family financial necessity or from choice... 56.9% of the female labor force in 1972 are married women (and this does not include divorced women). Also in 1972 women comprised 32.2% of the total labor force and this is a percentage increase of 64.3% over 1962. If we project this trend into the future, we can see that women if they want to have fulfilling lives had better look ahead over their whole lifetime when they prepare for careers just as men do because a large part of their life is going to be spent in paid employment whether from desire or necessity. Unfortunately women's expectations and needs are now ahead of what, in many cases, society is prepared to offer them. Men still think of women in many areas as destined to be subordinates and although many women are supporting families, the average income of working women is half that of men. In the 1971 census the figures for female heads of families in Canada had risen to 378,000 with a 44.7 percentage of income below the poverty line. This does not count the thousands of women on welfare with families to support.

You are fortunate that you have a profession and have the possibility of personal independence. In a time of social change, as professionals and as women, you will have problems and attitudes to face in your personal and professional lives which will not always be easy to solve. As mentioned before, our expectations and needs have changed faster than a lot of people's attitudes. We are in a period of social revolution in which there are no guides for women to follow. No one has all the answers to the problems which women face as they forge new life-styles and create new social roles. Margaret Mead, the anthropoligist, has said that the answers are obviously not to pressure women to be like men or to force them to retreat in reaction back into domesticity. You are part of the generation which is going to have to work this whole thing out so that you can fulfill your full potential as a human being within both marriage and career. It is not going to be easy but social change is inevitable and you have the education and the opportunities to accomplish these changes successfully.

Joyce Searcy, Acting Dean of Women
University of British Columbia

The above is an excerpt from the Graduation Address to the 1974 Class of Dental Hygiene at the University of British Columbia, May 28th 1974.

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Karin Sipko, R.D.H.

Mrs. Kline and Mrs. Sipko are part-time instructors for the Program of Dental Hygiene at the University of British Columbia. Mrs. Kline is also Chairman of the CDHA Manpower and Utilization Committee.

In June of 1973, the Manpower and Utilization Committee of the Canadian Dental Hygienists' Association circulated a questionnaire to all known dental hygienists in Canada, both members and non-members of the Association. The questionnaire was designed to obtain current baseline information regarding the education, employment, continuing education activities and expansion of functions of dental hygienists in Canada as well as their general characteristics and attitudes. A total of 1089 questionnaires were circulated along with a stamped, self-addressed return envelope. Thirty questionnaires were returned undeliverable and four hundred and ninety-two were returned acceptably completed, yielding a response rate of 45.17 percent (Figure 1). This response rate is as high as can be expected from a mailed questionnaire and no attempt was made to contact those who did not respond. The majority of the respondents were located in Ontario, British Columbia and Alberta.

The objective data on the questionnaire was computer processed and the subjective comments were recorded. The following is a synopsis of the results of the survey. Copies of the questionnaire including the complete statistics are on file with the Canadian Dental Hygienists' Association and may be obtained by writing to the Secretary.

PROFILE OF THE TYPICAL DENTAL HYGIENIST IN CANADA [Figure 2]

The "typical" dental hygienist in Canada is most likely to reside in an urban area and is a married female between twenty and thirty years of age with no children. She received her diploma in dental hygiene from a Canadian school and has taken no further academic courses. She is working for a private dental practitioner, has attended one or more continuing education courses, conventions or conferences in the past year and is a member of both a provincial and the national dental hygiene organization.

EMPLOYMENT DATA

Eighty percent of the dental hygienists who completed the survey were employed: fifty-seven percent of these were employed full-time (more than three days per week), nineteen percent were employed part-time (one to three days per week) and three percent were employed occasionally (no more than three days per month). Seventy-four percent of those employed worked in general or specialty practices while the other twenty-six percent were involved in public health, dental auxiliary education, hospital settings or research.

Of the respondents who were not presently employed as dental hygienists ninety-eight percent planned to return to work in some capacity in the future. The major reason stated for their temporary unemployment was family responsibilities. The remaining two percent of the unemployed specified that they did not intend to return to the dental hygiene work force and commented that their past dental hygiene practice experiences were not commensurate with their ability, training and education.

It was indicated by the results of the survey that in thirty-nine percent of the employment situations, dental assistants also performed intra-oral procedures although the nature of these procedures was not identified. Sixteen percent of the dental hygienists, most of them in public health, worked with a dental assistant specifically employed to assist them.

Sixty percent of the employed respondents received a salary which usually included fringe benefits such as holiday pay, sick leave, dental work, uniform allowance, malpractice insurance and continuing education allowances. Most of the other dental hygienists received a per diem wage without the advantage of fringe benefits. The gross income of fifty-eight percent of the employed dental hygienists ranged from $7,000 to $11,000 per annum. It was noted that salary increments were received but not at regular intervals.

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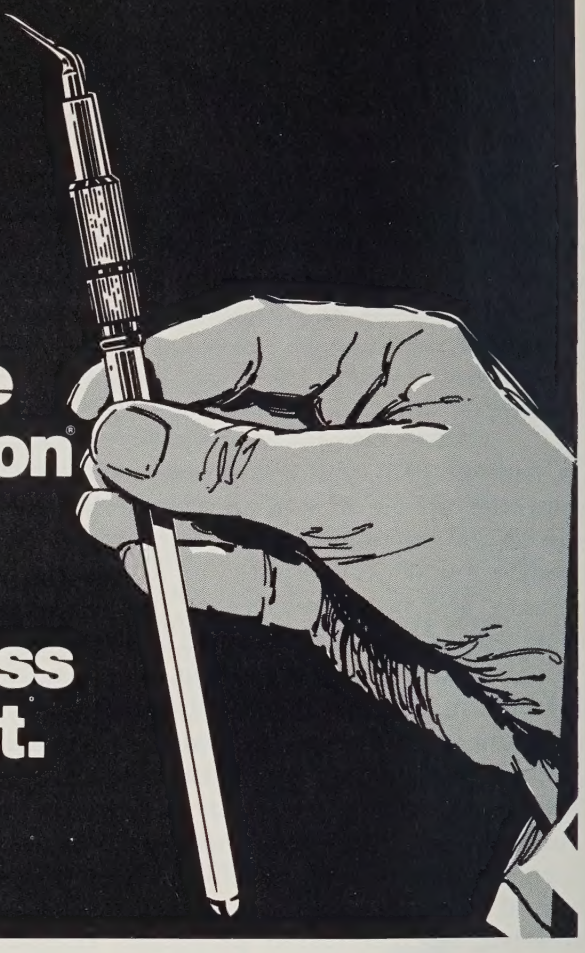

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CONTINUING EDUCATION DATA

Sixty-nine percent of the working dental hygienists attended one or more continuing education courses, conventions or conferences in the previous year. Of those who participated in such programs, fifty-seven percent continued to receive their salary while attending the program and fifty-six percent had some or all of the tuition fees paid by their employer.

Fifty-five percent of the respondents felt that a certain number of hours of continuing education should be a pre-requisite for licensure. They also felt that credit should be given for participation in professional activities such as formal courses, study clubs, conventions, conferences and association programs. A general concern for the expenses involved in terms of travel, accomodation, baby-sitters and loss of work time was expressed and it was suggested that independent study packages should be made available. Of the twenty-one percent who responded negatively to the concept of mandatory continuing education for licensure, many felt that proof of competence would be a more meaningful criteria.

Forty-nine percent of the respondents felt that formal education in expanded functions should be compulsory for licensure. In addition, seventy-eight percent felt that refresher courses should be mandatory for relicensure if a dental hygienist had not worked for a number of years. In answer to the question, "After what interval of time would it be necessary to take such a course?", seventeen percent stated after one to two years of unemployment, twenty-five percent after three to four years, thirty-three percent after five years, and twelve percent after six to ten years. Seven percent of the respondents did not agree with the principle of compulsory participation.

Forty-one percent of all respondents indicated an interest in a degree course in dental hygiene. The majority of these hygienists qualified their response by stating that their interest was dependent upon the suitability of the course content, increased employment opportunities resulting from the program, the locations, time and costs as well as family responsibilities being favourable. Several hygienists commented that had a degree program been available immediately upon graduation, they would have liked to have enrolled.

SUMMARY

The CDHA Manpower and Utilization Survey (1973) has provided some current baseline information regarding the education, employment, continuing education activities, characteristics and attitudes of dental hygienists in Canada. The statistical information will serve as the basis for future manpower studies and the annotated comments of the respondents which indicated several professional concerns such as benefits of association membership, availability of continuing education programs, portability and job incentives will be presented to the CDHA Board of Directors for their study and consideration.

FIGURE 1: NUMBER AND PERCENTAGE OF RESPONDENTS BY PROVINCE (JUNE 1973)

Province	Number of dental hygienists in province (1973)	Number of respondents in province	Percentage
British Columbia	172	90	52.32%
Alberta	164	73	44.51%
Saskatchewan	30	17	56.66%
Manitoba	67	29	43.28%
Ontario	513	221	43.07%
Quebec	30	19	63.33%
Nova Scotia	75	25	33.33%
Newfoundland	7	4	57.14%
Prince Edward Island	15	8	53.33%
New Brunswick	13	5	38.46%
North West Territories	2	1	50.00%
Total	1089	492	45.17%

FIGURE 11: PROFILE OR THE TYPICAL DENTAL HYGIENIST IN CANADA (JUNE 1973)

Resides in an urban area in Ontario, British Columbia or Alberta	79%
Is a married female	72%
Is between 20 and 30 years of age	85%
Has no children	61%
Has a diploma in dental hygiene	93%
Was educated at a Canadian school	91%
Has no further academic education	69%
Has attended one or more contuing education courses, conventions or conferences	69%
Is working full or part-time	76%
Is working for a private dental practitioner exclusively	74%
Is a member of a provincial dental hygiene association and the CDHA	72%

INTRA-ORAL CANCELLOUS BONE AS AN AUTOGRAFT — A CASE REPORT

ERIC FREEMAN, D.D.S., M.Sc.D.

Dr. Freeman is an Assistant Professor, Department of Periodontology, University of Toronto.

One of the most significant trends in periodontal therapy during the past decade has been the development of procedures designed to replace lost or diseased periodontal structures. Elimination or reduction of osseous deformities by the depossition of new alveolar bone, periodontal ligament, and cementum, utilizing an implant technique, produces more desireable results compared to conventional reduction procedures which result in minimal regeneration.

There are four general types of graft material used to induce a new attachment. These are -

Autoplastic - where bone of the same patient is transplanted into the defect;

Homoplastic - where the bone of the same species is grafted from one individual member to another;

Heteroplastic - where the bone is from a different species;

Alloplastic - where a bone substitute is employed.

It is generally held that the homoplastic, heteroplastic and alloplastic types of grafts are totally unpredictable and histologic studies have clearly shown that if there is some inductive action from components of these materials, they are too weak to be clearly demonstrated. As a rule, the grafts where shown to be resorbed.

Research indicates that the most favourable results can be expected if autoplastic grafting or autografts are used, particularly if the transplant can be kept alive and if it contains cancellous bone and marrow rather than cortical bone. Furthermore, a transplant which is covered by periosteal and endosteal connective tissues, especially if it consists of spongy bone, has the best chance of survival.

It is believed that red marrow stimulates bone formation by virtue of the availability of source cells which have the propensity to differentiate into osteoblasts. This differentiation occurs as a result of an inductive substance possibly liberated by products of necrosing marrow and cancellous bone.

Free osseous tissue autografts of cancellous bone and marrow, obtained from intraoral sources, can produce new attachment on a predictable basis for the broad osseous defect with three bony walls and the deep interproximal two-wall crater. The intraoral donor site is predetermined prior to surgery and the most common sites are the mandibular retromolar region, the maxillary tuberosity area, endentulous ridges, and buccal ledges and plates.

The use of free osseous tissue autografts obtained from intraoral sites has distinct advantages over iliac crest transplants. This is primarily due to the ease with which the operator can perform the entire procedure and better patient acceptance of implant therapy.

The following is a case report presented to demonstrate the successful and predictable utilization of a free osseous tissue autograft of cancellous bone and marrow from the maxillary tuberosity in the treatment of deep interproximal two-wall crater periodontal lesions.

The patient was a 53-year-old female in good health with moderate to advanced generalized inflammatory periodontitis. The mandibular right bicuspids and molars exhibited 7 mm pockets and deep interproximal two-wall craters. Radiographs of this area showed angular patterns of bone which is suggestive of deep interproximal two-wall craters (Fig. 1). Since correction of these defects by ostectomy would necessitate removing considerable supporting alveolar bone, it was decided to attempt to eliminate the defects with an autograft of cancellous bone and marrow.

Figure 1. Preoperative radiograph. The angular pattern of bone loss is suggestive of deep interproximal two-wall craters.

Initial mouth preparation was performed and consisted of calculus removal, root planing, soft tissue curettage, instructions in plaque control and occlusal adjustment.

After anaesthesia, buccal-lingual full thickness mucoperiosteal flaps with gingival retention were elevated to expose the recipient site. The bony walls of the defects where curetted to ensure the removal of all granulomatous tissue. The root surfaces were thoroughly planed and the osseous defects were then irrigated to remove loose particles and debris prior to decortication.

Decortication of the bony walls of the defect was performed, utilizing a #½ round carbide bur, penetrating through the cortical lining. This procedure not only exposes the marrow spaces but also provides a route for cells possessing osteoblastic potential to migrate into the defects. Figure 2 in this series illustrates the area after this has been performed. Full thickness mucoperiosteal flaps have been reflected at the recipient site. The osseous craters have been thoroughly curetted and the bony walls have been decorticated. Haemorrhage from the marrow spaces has filled the defects.

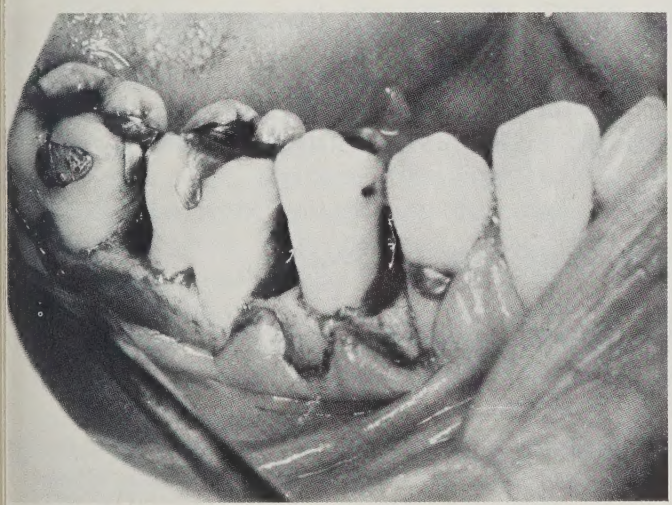

Figure 2. Full thickness mucoperiostal flaps reflected at the recipient site. The osseous craters have been thoroughly curetted and the bony walls have been decorticated. Haemorrhage from the marrow spaces has filled the defects.

Full thickness mucoperiosteal flaps were elevated at the donor site, the right maxillary tuberosity - as shown in Figure 3. The cortical bone was removed with rongeurs and carbide burs. Cancellous bone and marrow was then obtained from the maxillary tuberosity with narrow-beaked rongeurs and large curettes, care being taken not to encroach on the maxillary sinus. The osseous tissue autograft was then stored in tissue culture medium in a dappen dish (Fig. 4).

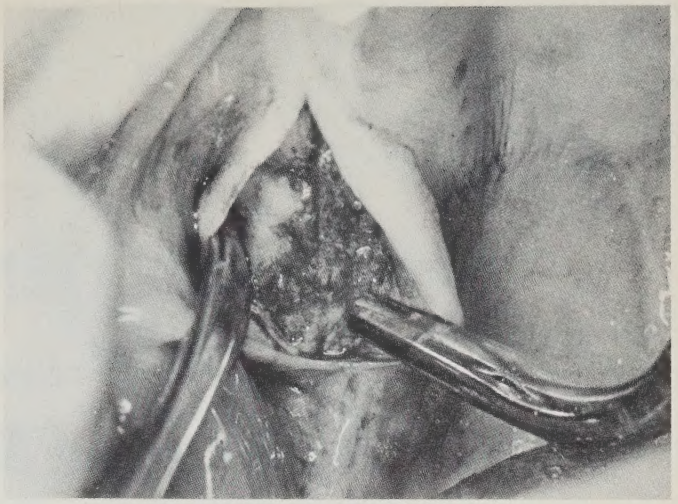

Figure 3. Full thickness mucoperiostel flaps reflected at the maxillary tuberosity.

Figure 4. Cancellous bone and marrow from the maxillary tuberosity stored in tissue culture medium in a dappen dish.

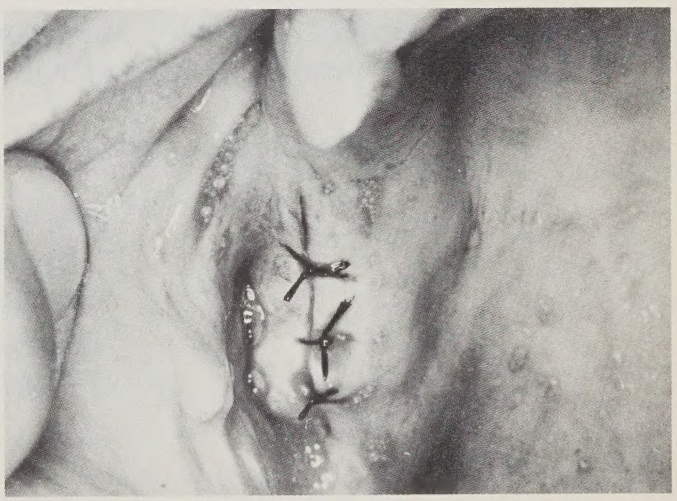

Figure 5. Donor site sutured with 000 silk.

As shown in Figure 5, the flaps at the maxillary tuberosity were replaced and sutured with 000 silk. As illustrated in Figure 6 the osseous tissue autograft was then loosely packed into the defects and the flaps replaced and sutured with 000 silk

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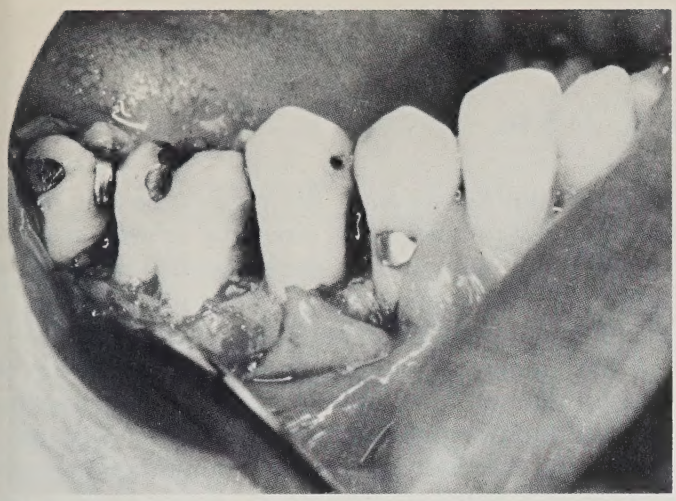

Figure 6. Autograft loosely placed into the interproximal craters at the recipient site.

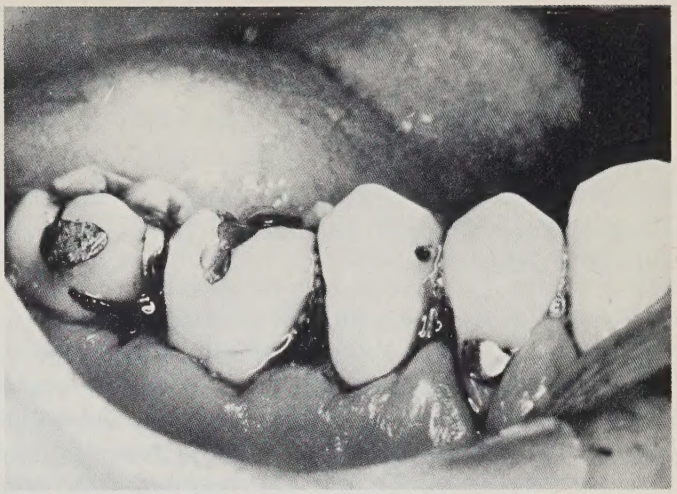

Figure 7. Mucoperiosteal flaps positioned over the grafted sites. One 000 silk suture has been placed.

(Fig. 7). A periodontal pack was placed for one week, after which the sutures were removed. The area was then cleansed and redressed weekly for a period of three weeks. The patient was placed on prophylactic antibiotic therapy beginning the day of surgery and continuing for five days postoperatively, along with analgesics to control pain.

Following autograft therapy, the patient was seen every four months for recall and reinforcement of plaque control in order to prevent new marginal inflammation at the recipient site.

At one year postoperatively probing in the mandibular right molars and bicuspids demonstrated 2 mm interproximal sulci. Figure 8 illustrates a radiograph of the recipient site one year postoperative. The presence of cortical alveolar crests, lamina dura, periodontal ligament spaces and normal pattern of trabeculae are suggestive of new attachment. A full gold crown has been placed on the mandibular right first molar and a MOD amalgam has been placed on the mandibular right second bicuspid.

The preceding case report has been presented to demonstrate the successful and predictable use of the free osseous tissue autograft procedure, using cancellous bone and marrow obtained from the maxillary tuberosity in the treatment of the deep two-wall interproximal crater. The factors which may have contributed to the success of this procedure included proper case selectivity, flap design which allowed for maximum closure over the filled defect, thorough root planing, decortication of the bony walls, utilization of cancellous autograft material loosely placed within the defect, prophylactic antibiotic coverage, and recall visits with reinforcement of plaque control.

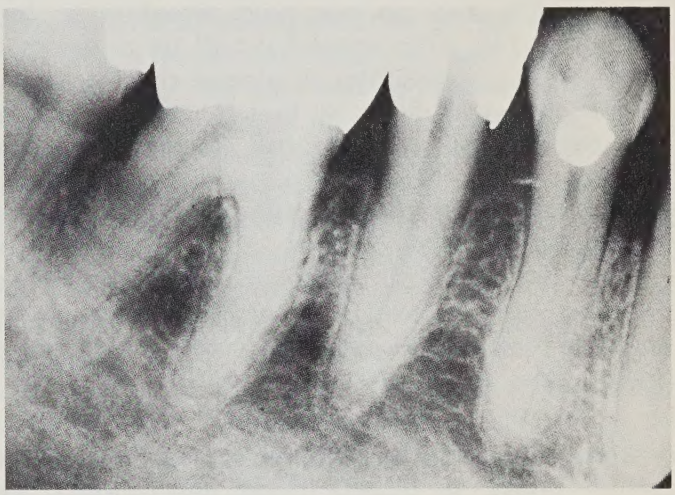

Figure 8. Radiograph of recipient site one year postoperatively. The presence of cortical alveolar crests, lamina dura, periodontal ligament spaces and normal pattern of trabeculae are suggestive of new attachment. A full gold crown has been placed on the mandibular right first molar and a MOD amalgam has been placed on the mandibular right second bicuspid.

This article was submitted by Jacklyn Ferguson, 4 Neopolitan Drive, Scarborough, Ontario.

PREVENTIVE PERIODONTICS

R.H. Johnson, D.D.S., M.S.D.

Dr. Johnson is an Associate Professor in the Department of Oral Medicine, University of Western Ontario.

Mass hysteria has hit the dental profession in recent years. Catchy slogans -''You Gotta Wanta!'', ''If You've Got 'Em - Floss 'Em!'', or ''Stamp Out Pollution - Clean Up Dental Plaque''; conventions with a carnival-like atmosphere and a special type of huckster; a pamphlet explosion on prevention; and a myriad of articles in popular magazines and newspapers have created fanatics and sceptics alike.

What's all the fuss about? Parmly advocated all of this in 1819 and no one paid attention to him. Hopefully, this time around it will be different!

Preventive periodonics is plaque control; plaque control and good dentistry that is. Missing are the fluoridation and diet control factors of caries prevention. No other aspect of periodontal therapy is as important. Almost everything the therapist does is directed toward creating an environment the patient can keep clean. Without patient cooperation the most expertly executed surgical procedure will go down the tube because the factors which caused the problem in the first place still are at work.

Good Dentistry

Gilmore and Sheiham studied radiographs of 1,763 people (aged 18 to 44) from New Mexico and discovered that 32% had one or more overhanging posterior dental restorations in their mouths - in fact, one quarter of all restored proximal surfaces had overhangs. A plea is made to prevent this - surely no patient should leave the dental office in a worse condition than when he entered.

Plaque Control

A motive is ''what induces a person to act'' and motivation certainly is essential in a plaque control programme. It starts with education because until a person realizes he has a problem he cannot be motivated to do anything about it. Enthusiasm generated by the dental team and involvement by the patient in the solving of his problem also are important ingredients in the recipe for success.

[a] **Education** - Most people have heard about a vague term called ''pyorrhea'' but really know very little about periodontal disease. The educational process, therefore, should start early in the relationship and the author has designed an information sheet (fig. 1) which is sent out to all new referrals prior to the initial examination and consultation visit.

Learning continues during the examination appointment by showing the patient pocket depths as they are probed, any bleeding or exudate, the presence of calculus or loose teeth, the lack of attached gingiva and so on. The actual charting can be examined together and the teeth compared to ten-foot fence with only three feet stuck in the ground. His problem should have become apparent by now and during the case presentation his role in therapy is alluded to briefly. Sometimes a subtle challenge - nothing impolite or holier than thou - works well, ''Don't let me con you into anything because if you are not prepared to accept your responsibility in controlling your own disease then I suggest you refuse treatment because you'll only waste your time and money to say nothing of frustrating me''. Most people are curious enough to start.

The first therapeutic appointment (exclusive of emergencies) is dedicated to plaque control. Although some excellent audio-visual films (i) are available, the dentist should introduce the problems of periodontal disease and concepts of prevention rather than delegating them to some machine or an auxilliary. Only then will the patient be convinced of the importance of plaque control.

With the aid of a black-board or, better still, a piece of paper that can be taken home, a typical spiel (10-12 minutes maximum) might go something like this - ''Periodontal Disease concerns the structures surrounding the teeth (fig. 2). The tooth is sitting in a socket of bone and held there by a ligament which runs from the bone to the surface layer of the root, called cementum. The overlying gum tissue may look fairly normal or display some subtle swelling or bleeding - nothing serious, but the underlying attachment may be destroyed. It is very difficult, if not impossible, to regain lost support because new bone, ligament, and cementum all have to be created and tied together - something mother nature doesn't help us with very much. What we (you and I) can do effectively is prevent further breakdown.

How did this situation happen in the first place? A substance called plaque is the main culprit and according to researchers make up about 85% of the cause of periodontal disease. Plaque is almost 100% bacteria and although there are billions of bacteria floating around in your mouth we are not concerned about them (hence the uselessness of mouthwash) but about those which stick to your teeth down by the gum-line and in between the teeth. Not only is plaque located in the ''hard-to-get-at'' areas, but if we clean it off today it will be back tomorrow because

Robert H. Johnson, D.D.S., M.S.D.
Faculty of Dentistry
The University of Western Ontario
London 72, Ontario

PEOPLE AGED 60 ARE MISSING 60% OF THEIR TEETH

THIS COULD HAVE BEEN PREVENTED!

The following has been prepared to answer some of the most common questions asked by patients who are anticipating treatment for periodontal disease.

What Is Periodontal Disease?
Perhaps the word "disease" is misleading because certainly this condition is not inherited or contagious. Basically it is a breakdown of the supporting structures of the teeth – the gums, and underlying bone. It often is referred to as "pyorrhea" or more properly "periodontitis" which can be very destructive, or "gingivitis", an earlier stage of the disease process which is restricted to the gums.

What Causes Periodontal Disease?
The answer is far from being clear, however, current research indicates that the number one cause is bacterial deposits called "plaque" which adhere to the teeth above and below the gum-line. Other much less important factors are the lack of natural resistance, a bad bite or malocclusion, crowded teeth, calculus, and an inadequate diet.

How Common Is This Condition?
Periodontal disease seems universal – indeed many surveys have shown that it is the most prevalent disease of mankind and anywhere from 75 to 90% of the adult population suffer from the condition and *yet are unaware of it.*

What Are The Signs And Symptoms Of Periodontal Disease?
Unfortunately with the exception of the relatively uncommon "trenchmouth" there is usually little pain or discomfort to act as a warning. Slight gingival bleeding may be the first sign followed by a bad taste or mouth odour, receding gums, and loosening of the teeth. Abscesses may occur in the advanced stages.

Why Treat Periodontal Disease?
The main reason is to preserve teeth. Without treatment destruction of the supporting tissues continues to a point where the teeth loosen and fall out or require extraction. Eighty-five per cent of tooth loss after the age of 35 is the result of periodontal disease. Artificial replacement may seem inevitable and the best solution, but remember that you can chew *5 times* better with your natural dentition than you will be able to with the most carefully constructed dentures. Other benefits of therapy include the correction of bad breath or taste, bleeding gums, and poor appearance.

Can Periodontal Disease Be Cured?
Yes, but *it all depends on you!* No other area of the health field demands more patient co-operation than periodontal therapy. You must recognize and accept your responsibility in treatment and become a co-therapist working every day at home. If you do, you have an excellent chance for success.

Timing, of course, also is important. If most of the supporting bone around the teeth already has been destroyed, the outlook certainly is not favourable.

How Long Will Treatment Take?
Although no two cases are exactly alike, the active phase of treatment usually takes several months. Periodic recall visits for cleaning, instruction in oral hygiene procedures, and careful surveillance of previous therapy are necessary. However, with a conscientious, independant effort at home, this is little more than is required of patients who never have had periodontal disease and who are eager to keep their mouths in a healthy condition.

WHY BE A DENTAL CRIPPLE?

ig. 1 – Information sheet on periodontics
nt to patients prior to initial examination.

takes 24 hours to reform once it has been removed. is important to realise that plaque is not food - it ill be there whether you eat, sleep, walk, or talk - so ne one hand because you diet for the weekend oesn't mean you don't have to clean your mouth but n the other hand if you do not get a chance to brush fter meals - I do with copious amounts of toothpaste ecause I like the taste - but do not depend on that lone because you cannot get a brush in between our teeth. Cleaning thoroughly because where you iss the first time will be repeated the second and ird - It really does not matter when you clean - 3 'clock in the afternoon or 10 o'clock at night - pick a me that is most convenient and do your thing! If ou do it well you have an 85% chance of stopping e progression of the disease.

How about the other 15% (see fig. 2)? Not too uch is known about resistance and although diet is xtremely important in the prevention of decay in ids it plays a minor role in adults with periodontal isease. A bad bite means that some teeth are being sked to carry more of the load than is desirable - his may accelerate the destruction around them. Crowding is simple - teeth that are jumbled together are harder to clean. A filling should follow the contour of the tooth, but if it becomes rough it will act as a "plaque trap" that is difficult to clean. Calculus - this is an important concept.

Calculus or tartar is nothing but calcified plaque; mineralized bacteria. This hardening process can occur very quickly - in 72 hours in some mouths. It adheres to your teeth and its rough, porous surface acts as a catch for more plaque which will cause even more inflammation and destruction. Some people go to the dentist every 3 to 6 months to get their teeth cleaned which must be a bit of a drag. But this does not have to happen because if you don't have plaque, you can't get calculus. It's impossible!

What is the dentist's role? He removes the calculus and bad fillings because he knows you can keep a smooth surface cleaner than a rough one. It is conceivable that your teeth can be straightened to make them easier to clean. A bad bite can be corrected and you can receive diet counselling if necessary. The dentist may not be able to do too much about "resistance" but even so it still only adds up to 15% - the rest is up to you! You cannot get away with going to the dentist every 6 months for a couple of fillings and then saying "Thank goodness that's over!" Anything done at the office has temporary value only. You must accept your responsibility as a co-therapist because I, or anyone else, can't go to your house everyday to clean your teeth for you. I'm the coach and will guide and encourage you, but you have to score the goals if we are going to win the contest!"

There obviously are many benefits for the patient - immediately gingival bleeding will stop, his mouth will feel cleaner, and sex appeal will increase; over the years money and time will be saved and discomfort avoided. Not every patient has the same desires; the young adult is not concerned about the problems of wearing dentures at retirement age, but rather bad breath and bleeding gums; the 38-year-old female is concerned about losing teeth, having her cheeks cave in and looking older. Whatever "turns them on" should be emphasized. (Note - The actual procedures will continue after a slight interruption for some philosophical mutterings.)

[b] **The Dentist's Role** - Every dentist may not have the charisma of Omar Reed, but he can be pretty persuasive if he is wedded to the concept of plaque control. If he is not absolutely convinced of its value (and that of periodontal therapy in general for that matter) and does not practice it himself religiously, he will be unable to project any sincerity and enthusiasm to his staff and through them to his patients. A credability gap soon develops and the programme suffers. Once he has introduced the

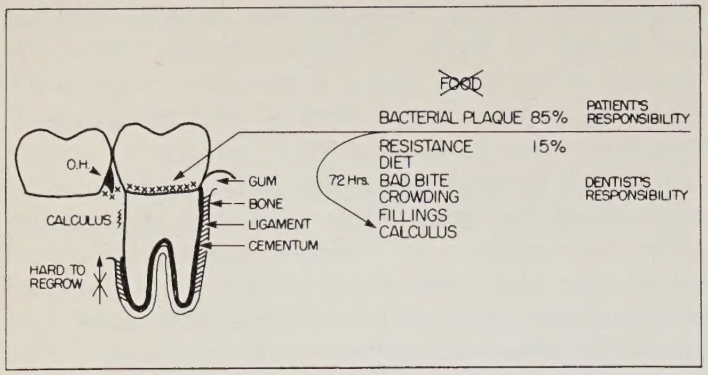

Fig. 2 – Sketch used in educational spiel.

ideas of prevention to the patient, the task of teaching the mechnical techniques involved can be turned over to energetic assistants who have genuine interest in people.

[c] **Mastering the Techniques** - The patient must become involved in solving his own problem. The ''5-day programme'' seems an ideal way of accomplishing this. A series of appointments designed solely for the purpose of allowing a person to learn certain motor skills and see the beneficial results quickly, without office personnel picking up a scaler, generates great enthusiasm. Reinforcement obviously is needed for long-term success and can be accomplished during subsequent treatment visits. Haphazardly scheduled appointments spaced over a greater period of time do not seem as rewarding because the patient forgets much of what he has learned during the previous visit and soon decides to give up the whole thing. The 22-year-old female, who can stop her gums from bleeding in a very few days, experiences great satisfaction by her accomplishment. It also is a tremendous morale booster for the entire staff. On the other hand if the task of stopping the bleeding is undertaken by dental personnel only, the credit is theirs and a dependence on them is fostered. Any improvement is temporary, the bleeding soon returns, calculus builds up, and the destruction proceeds as before. A patient should depend on the dentist to do only those things which he cannot do for himself.

Back to the actual techniques — the educational spiel finished, the patient again is shown that the problem actually exists in his mouth. The phase microscope has been used extensively but in the author's opinion is somewhat overrated — however, a darkfield microscope really shows those bugs wiggling. Disclosing tablets are a little messy but provide an excellent means of demonstrating the plaque deposits on the patient's teeth. A detail reflector (ii) (warmed with hot water so it will not fog) is a terrific little mirror which can be used in the hunt for plaque on the lingual and palatal surfaces of the teeth. The Plak-Lite (iii) does overcome the ''lipstick'' appearance of the tablets and yellow fluorescence contrasts nicely with the gingiva. However, if the patient is not prepared to spend $25.00 to purchase one, it is not used by the author thus keeping home testing on par with that of the office. Some debate has occurred on whether the patient resents being ''checked'' each time he returns. If the concept is presented with a positive attitude very little, if any, difficulty arises.

The next task for the patient is to ''get the red off!'' This requires guidance by office personnel. No one would pay a golf pro to be told he was a slice — any fool knows that! What he wants to know is how to correct it and this takes active participation by both parties. It is not enough to watch the pro hit the ball; the student has to do it and be corrected, guided, and encouraged. Praise reaps far more reward than criticism.

A multitude of instruments and gadgets are available for the removal of plaque, the more popular ones are discussed below. Following the ''KISS'' rule (keep it simple stoopid!) the fewer the number and the easier the technique, the better. Why carry 14 golf clubs when you can hit effectively with only 3 of them? The programme and instrument selection should meet the patient's needs and not the other way around. He then has to solve the problem of ''getting every surface of every tooth clean once a day without damaging the tissue''.

1) Toothbrush — A soft multi-tufted, rounded bristle toothbrush is recommended. The sulcular method of brushing with short vibrations is advised but as long as the patient gets the job down without tissue damage, technique is not that important. The lingual of mandibular molars is a difficult area to reach because the tongue usually gets in the way and forces the brush up off the gum line where the plaque is located. Active coaching is required — it is very difficult to teach someone how to tie a bow-tie by telephone.

Electric toothbrushes do not seem to be the answer for routine use. Muhler[2] conducted a study which demonstrated that although there was a great increase in daily frequency of tooth brushing when a person first secured an electric toothbrush, by the end of one year 50 percent of the people in the study no longer used it and, in fact, the frequency of any kind of brushing was less than when the experiment started. Reasons for stopping included ''not satisfied with the results,'' ''the instrument broke and was not replaced,'' or ''it was inconvenient for use away from home''.

With respect to toothpaste, Crest and Colgate with MFP have been recommended by the CDA because of their therapeutic value in the fight against decay. In adult periodontal disease it is what is done with the brush rather than what is put on it that is important.

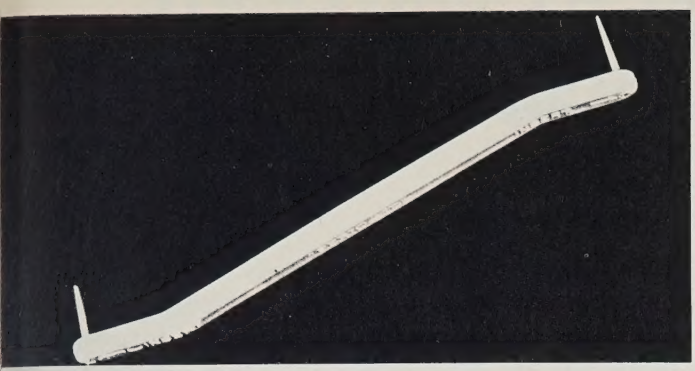

Fig. 3 – Photograph of Perio-Aid and Worlds Fair Toothpick.

2) Dental Floss — Unwaxed floss is preferred over waxed but any floss is better than not. The waxed variety is not as sensitive and will slide over the fillings. It, therefore, may be appropriate for early use before the overhangs are removed. Waxed floss also makes a useful travel companion to remove that piece of unwaxed floss that periodically gets wedged between teeth.

The technique requires perseverance and practice to master. Up-and-down strokes with unwaxed floss wrapped snuggly around each tooth create a squeaky clean sound. If not "hugged" carefully around the tooth the floss will cross and cut the gingival margin instead of sliding down into the sulcus — and that is where the action is! Patients are encouraged to floss without the aid of a mirror — to effect a behavioral change by locking them in the bathroom for twenty minutes a night is a harder task than one which allows them to watch their favorite T.V. programme. Floss caddies do not seem to have lasting value and are not recommended.

The patients should be warned that proper flossing and brushing may cause some initial discomfort and distasteful bleeding but to keep going anyway. It is like getting stiff on the first day of football practice; if one waits for three weeks to try again the stiffness returns but if somehow he can get through that first week, he is golden! Patients should be made to realize that the gums bleed because they are inflamed and they are inflamed because of plaque — get rid of the plaque, the inflammation subsides and the bleeding stops.

3) Perio-Aid (iv) — This is a great gadget (fig. 3) for cleaning between teeth with pathological or surgical recession. Here a surface concavity often occurs in the roots that would be missed by flossing. Involved furcations also can be reached. Worlds Fair round toothpicks (v) are designed specifically for the Perio-Aid, but they are made in the U.S.A.; local stores can obtain them by contacting Drug Trading Company Limited. Recently the D-Plak-R (vi) has been introduced and will accept round toothpicks of any size.

4) Bridge Cleaners — A dentist who constructs a bridge without giving his patient detailed instructions on how to clean it is similar to someone who sells a Cadillac without informing the customer it may need an oil change. The Butler "Eez-Thru Floss Threader" and 3-ply nylon (wool frays) yarn make an excellent device for getting under solder joints. Because of the yarn a gentle shoeshine action is permitted, (not so with floss) but the patient should be reminded that he is trying to remove a soft bacterial deposit, not concrete. The yarn also is very effective in cleaning the distal surface of terminal molars but the advantages must be weighted against the nuisance of using another cleaning device — "KISS"!

5) Water Irrigation Devices — There is some debate[3] as to the value of these instruments. Almost all investigators agree that they will not remove dental plaque but some, not all, claim they may help to reduce gingival inflammation possibly by diluting noxious substances produced by the plaque. Their use is not without some hazards as the potential for embedding foreign particles into inflamed or ulcerated tissue always is presnet. Probably their biggest deterrent to good oral hygiene practices is their ease of use. Human nature is such that people are prone to substitute the irrigation device for the really valuable techniques such as flossing, if they feel it will keep their teeth clean. Mechnical friction, not water spray, is the answer for a plaque-free mouth.

6) Tongue Brushing — As part of a general oral clean-up daily tongue brushing is recommended, especially for heavy smokers. Gagging may be an initial complaint but soon is overcome and the resultant freshened breath very gratifying.

7) Chemotherapeutic Control — Although mechanical tooth cleansing still is regarded as the most effective means of controlling plaque, a few words on "chemical war-fare" perhaps are worthwhile. Chlorhexidine gluconate has created a lot of interest because of the work done in Scandinavia. Daily rinsing with a 0.2 percent solution will prevent the development of and eliminate already formed plaque and gingivitis. However, it has been removed from the North American market because of possible cytotoxic changes in the skin. Intra-orally it does have a bitter taste and temporarily discolors teeth, tongue, and silicate restorations brown.

The enzyme, Dextranase, has shown great promise in reducing decay in experimental animals, theoretically because it is capable of degrading the intermicrobial cementing matrix of plaque. Unfortunately, it does not seem to work in man possible because dextran may not be involved in human periodontal disease.

Antibiotics, such as Kanomycin, Vancomycin, and Spiromycin have been tried in experimental animals and humans with varying degrees of success. Some of the obvious problems associated with the daily

"UN PROGRAMME DE FORMATION DE MAITRES EN HYGIENE DENTAIRE A L'UNIVERSITE DE MONTREAL"

Louise Lefebre et Sylvie Frechette

Etudiantes en hygiene dentaire a l'Universite de Montreal et professeurs au CEGEP Edouard-Montpetit de Longueil

Depuis 3 ans 1'Universite de Montreal offre un programme d'hygiene dentaire. Ce programme a ete institue afin de pallier a l'absence de personnel de langue francaise en hygiene dentaire au Quebec. Il a pour but de preparer une equipe d'hygienistes dentaires quid'une part repondraient aux exigences professionnelles dentaires etquid'autre part repondraient aux exigences professionnelles de l' enseignement car les diplomes seront appeles a former des hygienistes dentaires au niveau collegial (C.E.G.E.P.).

Ce cours est d'une duree de trois ans. Deux annees sont specialement consacrees a l'hygiene dentaire et une annee, a la formation en education. Tous les cours sont donnes en francais. C'est d'ailleurs le premier programme d'hygience dentaire donne en francais en Amerique. Chaque annee, l'etudiant recoit au moins trente credits de cours, seminaires et travaux pretiques (labortoire et clinique).

Cependant notre programme possede un caractere special. En effet en plus des cours habituellement suivis dans les ecoles d'hygiene dentaire, nous avons un cours de dentisterie operatoire et d'entrainement au travail d'equipe.

Ce dernier a pour objectif de nous habituer a travailler en collaboration avec le dentiste tout en appliquant les "expanded duties" comprenant : la pose de la digue, pose de la matrice, insertion et polissage des materiaux esthetiques, insertion et polissage des amalgames ainsi que l'insertion de bases.

L'etudiant-dentiste fait l'anesthesie, l'etudiante hygieniste pose la digue. Ensuite l'etudiant-dentiste taille la cavite qui recevra le materiau insere par l'etudiante-hygieniste. Nous pouvons donc mettre en pratique la theorie apprise aux cours de dentisterie operatoire.

Pendant l'annee consacree specialement a l'education, les etudiantes ont eu la possibilite de faire un stage special. Elles ont eu la complete responsabilite d'un cours donne au niveau collegial dans le programme de "techniques d'hygiene dentaire" au CEGEP. Les etudiantes ont puainsi acquerir une tres grande experience dans le domaine de l'enseignement.

Pour acceder a ce programme, le candidat doit avoir prealablement acquis un diplome d'etudes collegiales des sciences de la sante (D.E.C. du CEGEP). Il doit aussi avoir une tres bonne connaissance du francais.

Le candidat ayant reussi ce programme recoit le grae de baccalaureat es sciences (majeur en hygiene dentaire et mineur en education).

---

administration of an antibiotic are the expense, development of resistant strains and overgrowth of gungal organisms, and risk of sensitization. Tensio-active agents — Silicone and Fluoride — have been investigated in the hope that they would make the tooth surface slippery enough that the microbial masses would not be able to adhere. Thus far the results have not been too encouraging.

Conclusion

Preventive periodontics (i.e., plaque control and dentistry) can be a very rewarding aspect of a dental practice. Active participation by office personnel and the patient are required to make a go of it. It is not sufficient to say to Mrs. Jones as she leaves the office, "Oh by the way we recommend that you use dental floss". In theory a dentist should strive for the ideal regimen for all patients. However, it may be better to settle for less in some because continual striving for an unattainable goal may result in a discouraged patient and frustrated staff. Not every patient is going to be a winner but then a ball player can be a star in the majors by battling .300. Until something better comes along — "If You've Go 'Em, Floss 'Em!"

(i) A-V Scientific Aids, Inc., Mardan Business System Ltd., 80 Alpine Ave. Kitchener, Ontario.
(ii) Floxite Co., Inc., Niagara Falls, N.Y. 14303.
(iii) International Pharmaceutical Corp. 400 Valley Rd., Warrington, Pa. 18976.
(iv) Marquis Dental Mfg. Co., 2005 E. 17th Ave. Denver, Colo., 80206.
(v) Forster Mfg. Co. Inc., Wilton, Maine, 04294.
(vi) Dentool Mfg. Co., P.O. Box 91, Manhattar Beach, Calif. 90266.

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COMMUNITY DENTAL HEALTH EDUCATION FOR DENTAL HYGIENISTS

Alyson Taub, R.D.H., B.S., M.A.

M.s. Taub is Project Coordinator for Health Education at New York University, School of Education, New York, New York.

Due to the critical shortage of health manpower, the medical and dental professions have moved in several directions to attempt to provide greater health services for the public. These steps have included increasing the number of graduating physicians and dentists, increasing the use of auxiliaries, increasing the emphasis on preventive medicine and dentistry, and increasing public health measures in the fields of preventive medicine and dentistry.

If the pressing demands for health care are to be met in the future, it will be necessary to utilize allied health personnel to an even greater extent. Specifically, the dental hygienist with public health training can play an important role in dental public health activities as well as augment the services of the dentist. The success of preventive dentistry rests upon an informed public.

Effective utilization of health manpower is a critical factor. At present, there is relatively little career mobility for the dental hygienist.

"Improved career mobility will be important in achieving the fullest utilization of health manpower. At the present time, there is limited mobility in either a lateral or vertical direction among health careers. As education and training programs are now constituted, an individual has to select one of many possible health careers prior to enrollment in a specific program".[1]

In general, the current pattern of dental hygiene education in the United States is such that a student either completes two years of liberal arts studies and is then admitted to a dental hygiene program, or is admitted to a dental hygiene program directly from high school. Data from the American Dental Association indicates that most programs are of the latter type.[2]

There are relatively few schools which will accept a dental hygienist into a baccalaureate degree program after graduation from a 2-year dental hygiene school without the loss of many credits. If a student is accepted, the additional credits for the degree generally include advanced dental hygiene, with education or public health courses as electives. Dental hygiene students who do complete 4-year programs usually receive a Bachelor of Science degree in dental hygiene, and are prepared mainly for the clinical dental hygiene function. This system appears to be extremely wasteful and inefficient since students must often repeat work previously completed, are delayed in pursuing their career in dental health, and frequently are not prepared to provide any additional services to improve the health care system.

Although some dental hygienists with the 2-year or 4-year dental hygiene education are currently employed in community health settings, many are not performing as effectively as possible. Dental hygienists themselves admit that they have been placed in positions for which they have had little or no training. They have indicated how useful it would have been for them to have had preparation for these positions in their undergraduate studies. This lack of preparation is not only discouraging to the dental hygienist in a community setting but also limits her value in providing the public with improved health care services.

Public health dental hygienists are currently employed in settings such as neighborhood health centres, comprehensive child care programs, hospitals, and health departments. As additional facilities are established, particularly for the economically deprived, there will be an increased need for both dental services and preventive dental health education. The dental hygienist with public health training could be a facilitator of these services.

If a dental hygienist decides that working in private practice does not suit her, then she must either seek a different type of position within the profession or leave the dental field completely. In seeking a different type of position, such as assistant to the director of a dental clinic or instructor of dental auxiliaries, a dental hygienist with only the two years of dental hygiene training often finds considerable deficiencies in her preparation. Not all dental hygienists can even secure positions outside of private practice due to lack of training, and unfortunately, they often leave the field completely.

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Contact with dental hygienists through the years has led to the following conclusions:

a. Many graduates of 2-year dental hygiene programs are interested in entering baccalaureate degree programs which offer new areas of specialization such as community health. They feel that they have adequate background for their clinical function as dental hygienists, but want a more diversified program which is not limited to advanced dental hygiene.

b. There is a large potential pool of dental hygienists with high aptitude for scholarly pursuits who desire advanced education leading to more challenging professional opportunities.

c. At present, there is relatively little lateral or upward job mobility for the dental hygienist.

d. Dental hygiene graduates report that they have been placed in positions for which they have had no formal training. This situation discourages, rather than encourages, dental hygienists from pursuing such positions, indicating the critical need for broader preparation. In order to avoid wasting the skill and knowledge of those who would seek greater opportunities, "It is . . . essential to design courses of study which will permit able students ultimately to pursue advanced studies leading to more responsible positions."[3] It is with this in mind that a new curriculum with a specialization in community dental health education for dental hygienists was developed at New York University. If dental hygienists are encouraged and have the opportunity to develop to their fullest potential, then they will be utilized most effectively because:

a. they will have adequate preparation to seek more responsible and varied positions contributing to greater job mobility,
b. they will be retained in the dental profession, and
c. they will acquire additional skills in order to increase their value in the health care system.

New types of 4-year undergraduate programs for dental hygienists would meet an important societal need for community health workers. These programs would expand upon the specialized health training of highly capable dental hygienists who have a desire to broaden their professional base, and would expedite their movements into community dental health positions.

There has never been a time of greater need for health services and health education operating in tandem. Professionals of all kinds are needed. There is an especially pressing need for consumer health education that emphasizes what consumers can do to preserve and protect their health. While comprehensive, rather than fragmented, health efforts are favored, it is also recognized that there is a need for attention to problems of particular concern, such as dental health, which requires specialized competencies. It is important to capitalize on the skills, experience, and special interests of dental hygienists by broadening their preparation for application to community needs.

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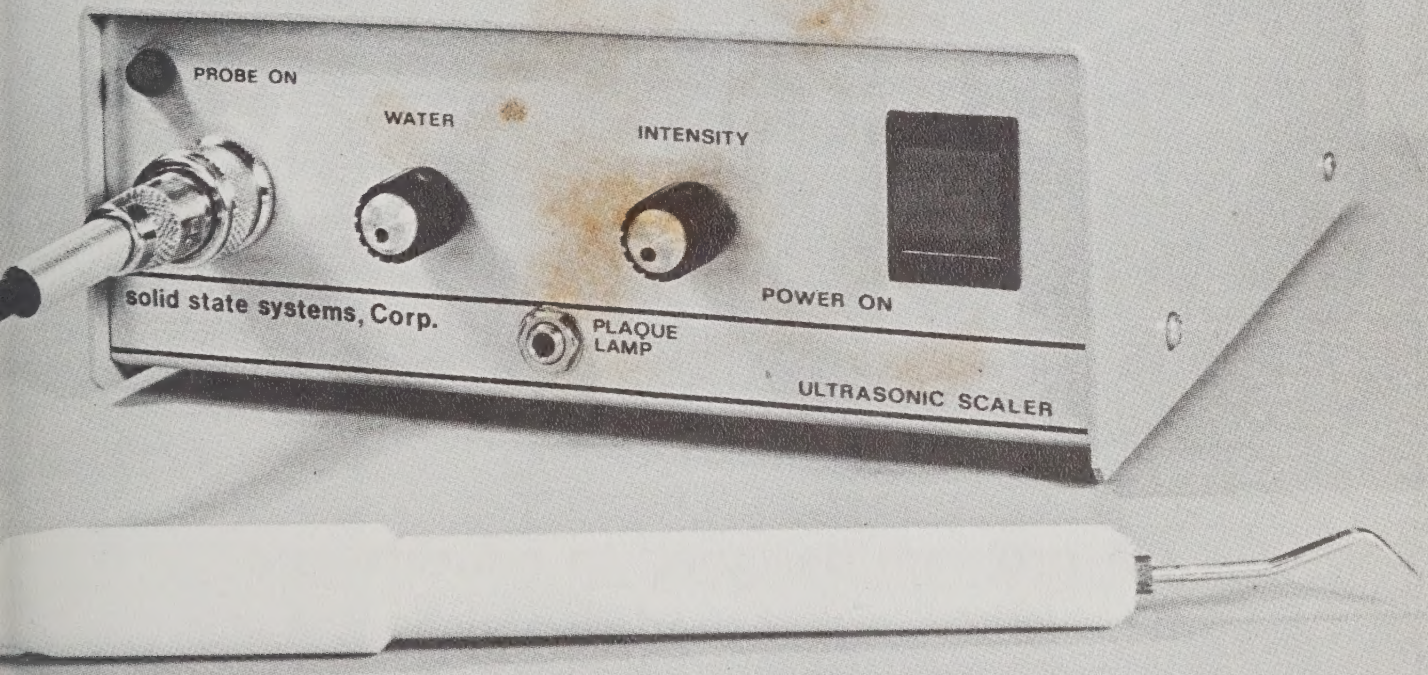

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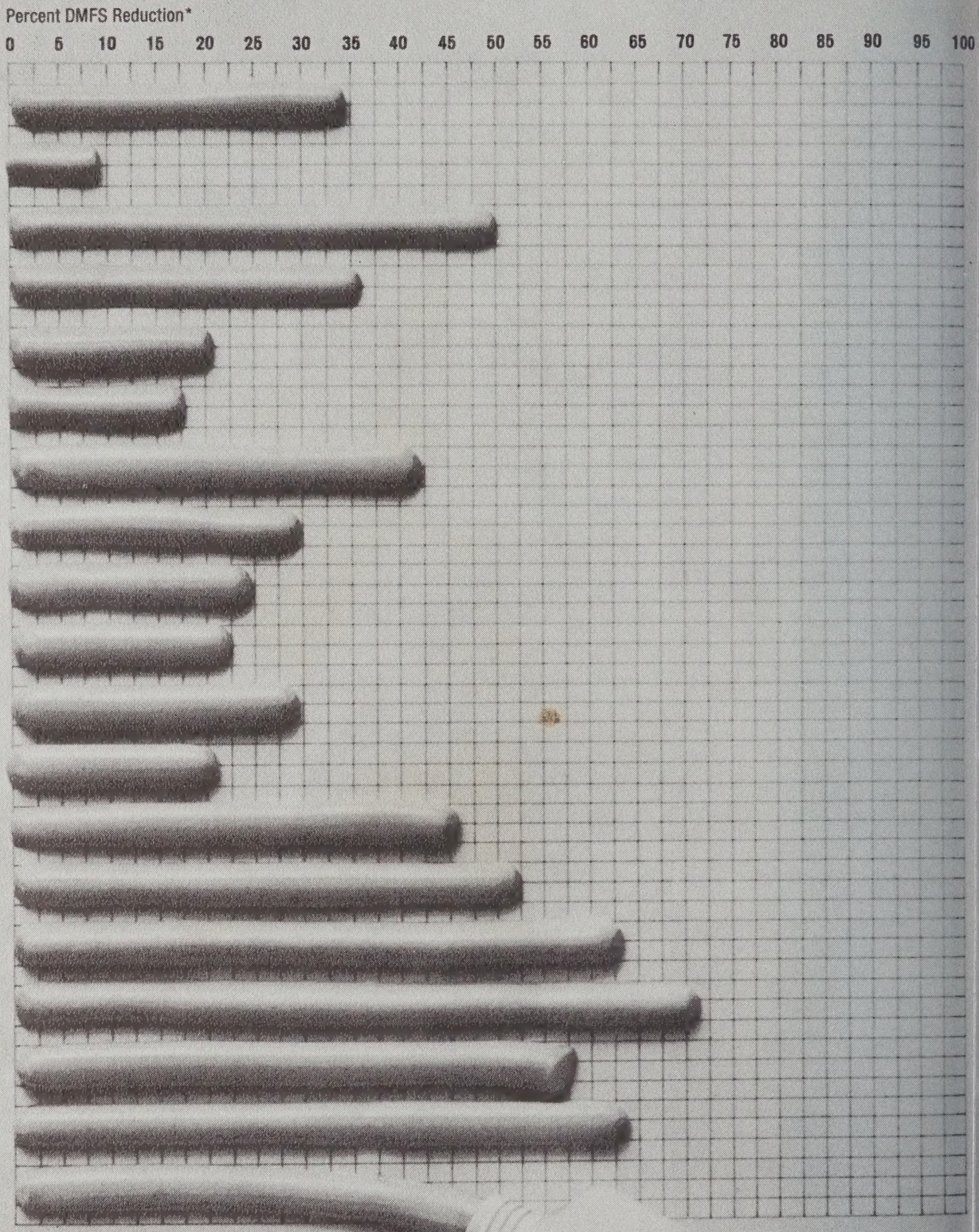

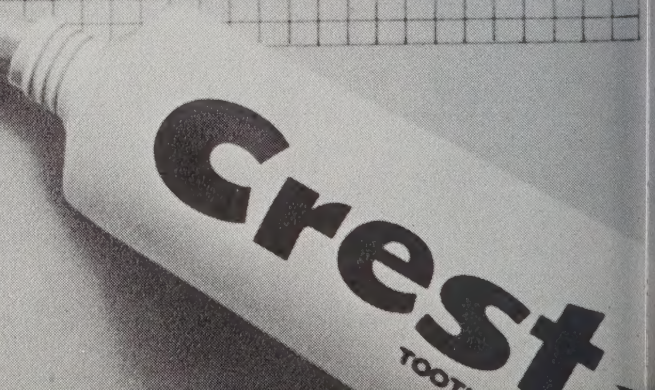

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ASPD TAKES LEADERSHIP ROLE IN SUCROSE PROBLEM

The Board of Directors by unanimous decision on June 19, 1974 approved support of the petition of the Center for Science in the Public Interest to the Food and Drug Administration that they: 1: limit the amount of sugar in ready-to-eat breakfast cereal to 10%; 2. those with a higher sugar content contain the following label: "CONTAINS ---% SUGAR: FREQUENT USE CONTRIBUTES TO TOOTH DECAY AND OTHER HEALTH PROBLEMS".

After consulting with Dr. Don Masters, co-chairman of the ASPD Public Information Committee, President B. Warren Ross joined the press conference with the following statement on August 1, 1974 in Washington, D.C.:

"The American Society for Preventive Dentistry wishes to register its concern about the increasing use of sugar by the American public. Sugar, which is a condiment, has taken on the status of a food, yet it has drug-like qualities. Sugar is implicated in a number of serious chronic diseases. It tends to increase the blood levels of triglycerides and cholesterol and causes aggregations of blood platelets, making it a contributing factor in coronary artery disease and strokes. It is one of the major factors in obesity, considered by many authorities to be the nation's number one chronic disease problem. It is the trigger mechanism for both diabetes and hypoglycemia. And, finally, sugar is a major factor in producing dental disease.

"With all this in mind, we see manufacturers taking cereal, a wholesome nutrient that was one of the four basic food groups, and distort it into high-sugar, high-cariogenic products of doubtful nutritional value. The most alarming threat, however, is to the young who are forming their dietary habits and tastes. Food processors and marketers capitalize on compelling and habituating qualities of sucrose, using it in breakfast cereals, snack foods of little nutritional value and play on the taste buds of the young. The American Society for Preventive Dentistry is alarmed that supposedly responsible food processors would stoop to deliberately habituating a populace to a drug-like food, which has no nutritional value whatsoever, and can only be associated with producing disease states while satisfying the immediate desires of taste.

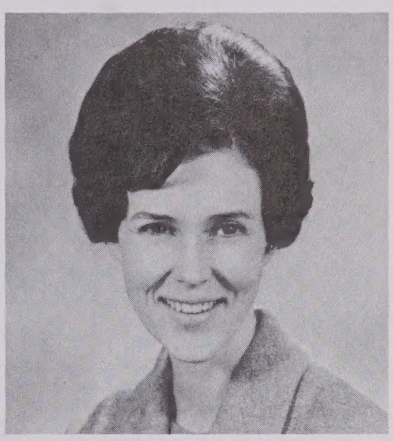
"The state of this irresponsibility is not only alarming, it should be viewed with the same degree of critical appraisal that any drug or food on the market has been viewed by regulatory agencies. If cyclamates can be removed from the market without any evidence to show human involvement in diseases, certainly the evidence against sucrose warrants immediate and thorough action on the part of agencies that are supposed to be protecting the public from irresponsible corporate behavior."

This conference was covered by all major networks, wire services, the New York Times, and many other members of the fourth estate.

While much preventive dentistry can be done in the private office, much, much more can be done by going to the causative factors of dental disease (and other diseases) – "junk foods". If we could decrease the 110 pounds of refined sugar consumed by each man, women and CHILD in the country annually, think what an improvement in dental health there would be!

ASPD has been described as "the interface between the public and the profession". The very least we can do is to make the public aware of the harmfulness of the foods they buy. Let's give the benefits of thorough preventive professional services to the public – not by just passing a resolution, but by working to make these resolutions become fact.

American Society for Preventive Dentistry



Marnie Forgay

AUXILIARY REPRESENTATION APPROVED

As a result of a resolution by the CDA Council on Education to increase the Committee on Survey Policy by the addition of two members elected by the national organizations of dental auxiliaries being surveyed, the CDHA Board of Directors is pleased to announce the appointment of Mrs. Marnie Forgay as our official representative. Mrs. Forgay is the Director of the School of Dental Hygiene, University of Manitoba and is an active member of the CDHA Education Committee. Mrs. Darlene Munro of Vancouver, B.C. has been appointed as the official representative of the Canadian Dental Nurses and Assistants Association.

CONVENTION A SUCCESS

Toronto, Ontario was the venue of the 11th Annual Convention of the CDHA and those who attended had an opportunity to enjoy a most interesting and educational program. The theme of the convention was, "Spectrum '74: The Dimensions of Dental Hygiene" and during the three days, speakers and panelists from Canada and the United States provided a "new" look at dental hygiene, siting many opportunities that are both exciting and inviting. Jane Costigane, Convention Chairman, and the many members who assisted her in organizing this annual session are to be congratulated. The 1974 Convention Highlights and Board Transactions will be published in the next issue of the journal.

BDHA CELEBRATES ANNIVERSARY

The British Dental Hygienists' Association celebrates its 25th Anniversary at Kensington Close Hotel, London, England on Saturday, November 30th, 1974. Although CDHA is unable to send a representative to join them for this celebration, we extend to them our congratulations and best wishes for continued success.

RESEARCH UNIT ESTABLISHED

A Dental Health Care Services and Epidemiology Research Unit was recently established within the Faculty of Dentistry, University of Toronto, with initial funding provided by a grant from the Ontario Ministry of Health.

The Unit is attached to the Department of Community Dentistry and has as its core staff Drs. A.M. Hunt and D.W. Lewis and research associates Sharon Gilbert and Christa Wypkema. The Unit also draws from a staff of 37 consultants from across Canada specializing in a variety of disciplines including economics, sociology, administration, epidemiology, operations research and public health.

The Unit has three main functions:

(1) To conduct research in dental health care services and epidemiology;
(2) To provide advisory and research services for associations, government, institutions and researchers engaged in related studies;
(3) To promote good dental care services research by providing opportunities for education and practice in the area.

RAUWOLFIA ALKALOIDS IN BREAST CANCER

Health and Welfare Minister Marc Lalonde recently announced that the Health Protection Branch of his department has taken immediate steps to have a panel of non-governmental experts conduct an independent medical review of all available data on preparations containing Reserpine or Rauwolfia alkaloids. These drugs are widely used for the treatment of high blood pressure and are available only on prescription.

In the most recent issue of a leading medical journal, The Lancet, there are three papers which report that the long-term administration to women of preparations containing Reserpine or Rauwolfia alkaloids is associated with a two or three fold increase in the incidence of breast cancer.

The problem was originally detected by the Boston Collaborative Drug Surveillance Program. Additional retrospective studies were conducted in the United Kingdom and Finland. These studies also suggested that long-term administration of Rauwolfia derivatives was associated with a increased incidence of breast cancer in post-menopausal women.

Officials of the Health Protection Branch have been in close touch with American and British health authorities on this problem. It is considered the data reported in the three studies are important enough to be brought to the immediate attention of physicians, and require a re-assessment of the role of Rauwolfia alkaloids in modern therapy. This review will take several weeks to complete; a further announcement will be made in due time.

In the meantime, Canadian physicians may wish to re-assess the treatment of their patients receiving these drugs. An information letter is being sent to all Canadian physicians in order to make them aware of the problem.

Health and Welfare Canada

ONTARIO DENTIST RECEIVES JOURNALISM AWARD

The International College of Dentists has announced that the Ontario Dentist was accorded an Honorable Mention award in the I.C.D. Journalism Awards competition.

The judges cited the Ontario Dentist for text design of scientific articles and for excellent photography.

Presentation of the award to Dr. Neil Munro was made at the Editors' Dinner during the American Dental Association Journalism Conference at Memphis, Tennessee.

100 - UNIT INSULIN PREPARATIONS

During recent years, all Insulin preparations distributed in Canada have been available containing 40 units per cc. and 80 units per cc. Since April 1974, each of the preparations have also been available containing 100 units per cc. In Canada and the United States, it is planned that Insulin preparations will be distributed ultimately *only* in a strength of 100 units per cc. In Canada, it is hoped that preparations containing 80 units per cc. will be discontinued by the end of 1974 and preparations containing 40 units per cc. be discontinued about mid 1975 or shortly thereafter.

ADHA PRESIDENT SPEAKS AT FDI

Miss Konnetta E. Putman, President of the American Dental Hygienists' Association, made a presentation at the 62nd World Dental Congress of the Federation Dentaire International, which was held September 8-14, 1974 at the Royal Festival Hall in London.

The presentation entitled, "Prevention as a Team Effort: Utilization of the Dental Hygienist," focused on the importance of preventive dentistry and the dental hygienist as an integral part of the dental health care team.

A professor in dental hygiene education at New York Community College, Miss Putman has also been on the staffs of Howard University college of Dentistry and Meharry Medical College of Dentistry.

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THE CANADIAN DENTAL HYGIENIST

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L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous les trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient ête adressér aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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PRESIDENT'S MESSAGE

Vivid memories of endless sessions of rote learning comprise my earliest impressions of education. This routine, mechanical instruction was expected to develop the faculties and powers of an individual by forcing into or foisting upon one well rehearsed, unimaginative drills. Imagine my concern when I learned that the root of the verb, to educate, meant "to bring out, to cause to grow," but not "to put into."

This seemingly radical concept toward education was brought to light for me by a history professor who asked the class on the first day,"Why study history?". Most of the class knew the answer to that from years of learning, that one studies history in order to learn from the mistakes of the past. If we were to study the Fall of the Roman Empire, then we could avert the Fall of North American Civilization, or so the theory went. After several members of the class gave variations on the programmed response, the professor announced that there was only one reason to study history, ". . . . because it is fun!." He then dismissed the class. Previous to that time, it had not occurred to me that studying History could be fun, or Math, or Science, for that matter; although I admit to having enjoyed diagramming sentences, sight-reading a musical score or quoting literary non-sequitors.

I had always been able to obtain high marks with the old, patterned approach, but it was never much fun. It occurrred to me that now I could learn to enjoy discovering within myself the capacity to bring forth ideas and to nurture them from abstract thoughts into some kind of concrete, practical form. And so, I began to allow the educational process to bring out of me capabilities and possibilities to be brought to a more advanced and effective state.

In the profession of dental hygiene, I found a way of incorporating my newly found approach to education. Rather than becoming a dental hygienist by copying the skills and techniques of an experienced graduate, I would develop these capabilities from within, along with developing concepts and theories to support these skills.

There is an urgent need in Canada for dental hygienists who are trained as educators; individuals who are able to bring out of the student their potential to become competent, creative dental hygienists. The Canadian Fund for Dental Education (CFDE) contributes teacher training grants for dental hygiene educators. The money for these grants comes from individual contributions, yours and mine. Allow yourself the privilege of supporting an educator and allow yourself the luxury of becoming an educator. Learn to bring out in your colleagues, your patients and yourself new capabilities and possibilities that will bring us all to the desire to educate in the most comprehensive of ways.

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THE EXPANDING ROLES OF OPERATING DENTAL AUXILIARIES

DIXIE SCOLES, R.D.H., B.S., M.S.

Miss Scoles is the Director of the Dental Hygiene Teacher Education Program at the University of Montreal.

Introduction

Additional dental care can be provided to the public by delegating technical tasks of the dentist to operating dental auxiliaries. The purpose of this paper is to review expanded operating dental auxiliary programs and experiments in Canada, the United States, and New Zealand in order to provide some data and perspective for our discussion of evolving roles of dental auxiliaries.

Review of Expanded Operating Dental Auxiliary Programs

Canada

Canada is a sizeable country with half or more of its population lying in the 100-mile wide strip of land lying along its southern border from East to West. Up against the formidable U.S., Canada's standard of living ranges from most to least developed, and its population represents a variety of needs and backgrounds.

The seat of influence determining the roles of dental auxiliaries lies with the provincial governments rather than with the federal government, the dental associations, or the licensing bodies; hence, Canada has a variety of dental care delivery systems and nearly every known type of operating dental auxiliary functioning somewhere within her borders.

In Western Canada the dental hygienist of British Columbia is much like the American prototype with a strong orientation toward private practice and periodontal functions. Coming East, we also find the traditional dental hygienist in Alberta.

In Saskatchewan there is a new program for dental nurses who are similar to the New Cross and New Zealand dental nurses with emphasis in the areas of treatment and dental health education; there is another program for expanded dental assistants who will scale teeth and work in teams with the dental nurse; there is no provision for dental hygiene as we know it. Pilot projects have already been completed using dental nurse/expanded dental assistant teams which work under the indirect supervision of a dentist. This program has begun and is part of a provincial plan to provide free dental care for children.

In the Northwest Territories at Fort Smith there is a new operating dental auxiliary program which is preparing natives of the North (Indians, Metis, and Eskimos) to perform the expanded dental functions needed in remote regions.

At the University of Manitoba there is a federally funded restorative function research program for dental hygiene students in progress, while in northern Manitoba there is a new program planned to provide a career ladder progressing from dental assisting, to dental hygiene, to dental therapy and finally through dentistry if desired. Manitoba's dental hygienists were expanded in prosthetic functions at the beginning of their program ten years ago.

Ontario again follows the traditional dental auxiliary roles but is conducting research in actual private dental offices in the utilization of the dental hygienist expanded into the restorative areas.

Quebec, which is the predominantly French-speaking province in which I work, has begun to "explode" from zero to nine dental hygiene programs in the past two years. The licensing body has just made restorative functions legal at the same time as subgingival scaling for all dental auxiliaries who have been trained in recognized programs. In 1972 there were only five dental hygiene programs in the other provinces of Canada, graduating 125 students in that year. In Quebec this past year there were seven dental hygiene programs with around 200 students enrolled in one year. There are still under 20 licensed dental hygienists in Quebec, a dental hygiene teacher education program, a corporation bill which will govern dental hygiene practice in place of the dental licensing body, a developing system of health units, an enormous dental manpower shortage, and an even larger need for dental care and information. As a result of the recent expansion of the Quebec Dental Act concerning restorative functions for dental auxiliaries, restorative dentistry has been added to the regular curriculum of the University of Montreal dental hygiene teacher education program and these functions will first be practiced in a TEAM clinic in the dental faculty. There are twice as many male as female applicants for next year's dental hygiene teacher education program. With the selection of the best qualified applicants, the program should have an equal composition of men and women.

In Prince Edward Island an experiment has been completed with the dental hygienist role, in both private practice and public school clinic settings, expanded to restorative functions. As a result of this experiment, the dental hygiene program at Dalhousie University now includes restorative dentistry as part of the regular curriculum and expanded dental hygienists are practicing in the public and private sectors of Nova Scotia and Prince Edward Island.

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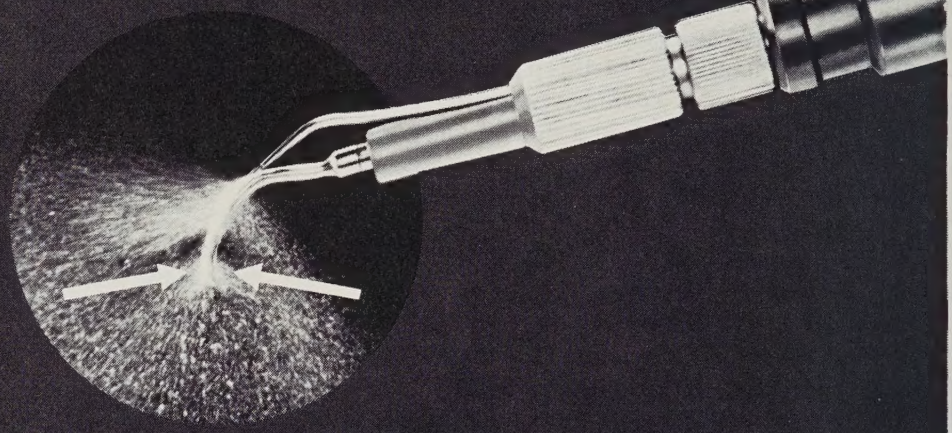

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United States

In the United States dental auxiliaries were mentioned for the first time in 1887 – the dental assistant – by Dr. Dr. C. Edmund Kells of New Orleans.(1) The concept of increased productivity through the use of a trained dental assistant was discussed as early as 1925 by Johnson.(2) By 1961 the Dental Auxiliary Utilization (DAU) Programs, which were eventually established in most American dental schools, began to be funded by the federal government. These programs were effective in teaching young dentists their role in four-handed dentistry with trained dental assistants. By the early years of World Ward II a survey and several studies were undertaken which began to alert the profession to the potential for increased productivity through the utilization of auxiliaries. The history and polemics of the dental auxiliary movement in North America have been well documented in military and public health settings by Baird,(3) Ludwick,(4) Lotzkar,(5) Hammons,(6) Abramowitz,(7) Soricelli,(8) and Roemke(9); and by Lathrop's(10) and Koerner's(11) reviews of the literature.

The documented North American studies for expanded dental auxiliaries are seven in all and have been generally concerned with similar restorative functions, i.e., taking impressions for casts, placing the rubber dam, placing and removing temporary restorative material, placing matrix bands,placing and carving amalgam and aesthetic materials, and finishing amalgam and aesthetic restorations. Five demonstrations with dental assistants in the U.S. and two in Canada with dental hygienists show that the delegation of these restorative procedures to trained auxiliaries can result in a substantial increase in productivity with no reduction in quality.

TEAM Programs

One of the significant outcomes of these seven studies was the beginning of a new federal program which began in 1971 to phase out the DAU Programs. These new programs, called TEAM Programs (teaching expanded auxiliary management), are expected to teach dental students their new roles as people managers and work sequencers, and dental auxiliaries their expanded functions and roles as members of the dental team.

Expanded Dental Hygiene Experiments

Experimental studies concerning new functions for dental hygienists have been slower in developing, but in the last two years at least eight new studies began in North America (six in the U.S. and two in Canada) which have scarcely begun to document their findings. Of the six American experiments all but one are being conducted with graduate dental hygienists, three are cutting soft tissue, three are cutting hard tissue, and the injection of local anaesthesia is performed in at least four of these studies. The injection of local anesthesia is legally performed in the states of Washington and Pennsylvania by graduate dental hygienists who have taken recognized training programs. The six American studies for expanded dental hygiene are found in the states of New Mexico, Kentucky, Pennsylvania, Massachusetts, Iowa, and the District of Columbia.

In Canada present dental hygiene studies are located in Manitoba and Ontario and generally duplicate the restorative functions of the previously documented studies.

New Zealand

Although in North America we conduct experiments in restorative functions for dental auxiliaries, New Zealand has been training and utilizing such auxiliaries for over 50 years. Apart from dental hygienists, the New Zealand school dental nurses were the only operating dental auxiliaries for at least 30 years and they are still viewed with some apprehension by dental professors of most free-enterprise countries, according to Leslie.(12)

The concept of employing specially trained young women to provide dental care for school children was conceived in 1920 by the New Zealand Dental Association in spite of the threat it posed at the time to orthodox dental practice.(13)

The training of school dental nurses began in 1921 and has been conducted by the Department of Health in their own schools rather than in university dental schools. Graduates of dental nurse programs may be employed only by the government and this has been a matter of basic policy since the programs began. The secret of training an operating dental auxiliary who is to work alone is absolute standardization of techniques and rigid uniformity of instructions and directions. There are now three schools for dental nurses – at Wellington, Auckland, and Christchurch – with a total annual intake of approximately 200.(12, 13)

The functions of the school dental nurse are: examining patients and charting dental conditions, performing prophylaxis, placing fillings in both permanent and deciduous teeth, extracting teeth under local anesthetic, and making topical applications of preventive medicaments. Almost every primary and intermediate school with 100 or more children on its roll has its own clinic and its own dental nurse, either full-time or part-time.(13)

In 1923 when the first group of 29 school nurses completed their training and began operating, they recorded a ratio of 78.6 extractions for every 100 fillings. Now so few teeth need extracting – only 23.2 in 10,000 children – that the three schools for dental nurses no longer teach this procedure. The New Zealand scheme claims to be not only a repair service but also a positive influence in health education. It was found that 67 percent of young men and 77 percent of young women were continuing to attend their dentists at their own expense after treatment ceased at 16 years of age.(13)

Leslie and others report that both school children and the most conservative dentists now accept dental auxiliaries without fear. He believes that the exceptional foresight shown by New Zealand in training young women as dental auxiliaries to provide routine dental

care has acted sociopolitically as a safety valve. It has served to prevent a sudden wholesale demand for dental benefits that could have embarrassed both the government and the profession.(12)

Discussion

To compare dental auxiliary roles in Canada, the U.S., and New Zealand is not possible, since there is no standard dental auxiliary system which will be equally appropriate to every social, economic, and professional environment. Each country, governmental region, or practice setting has its own problems which must be considered in making health manpower decisions. Though each person participating in this Symposium will understand the issues of expanding dental auxiliaries more clearly, the chances of our finding one standard solution are nil – unless we can find some way to standardize countries and professionals. Perhaps it will be necessary to discuss ideas for improving dental auxiliary systems by country, province, state, or by type of practice in order to make workable decisions.

Some of the issues which are common to expanding dental auxiliary systems as well as to other expanding health care auxiliary systems are legal issues, training programs, role relationships, quality of care, and consumer acceptance.(14) Most of the changes which I would like to propose to insure the development of expanded operating dental auxiliaries fall generally into these categories:

1. Auxiliaries could keep themselves well informed in order to understand the evolution of their roles and to take part actively in the changes.
2. Auxiliaries could be active in the revision of dental acts.
3. Auxiliaries could make better use of political techniques to obtain their professional goals.
4. Auxiliary corporations could provide a more equitable government of auxiliary examinations, licensing, and controls.
5. Educators could give students a better and more realistic preparation for the jobs they are going to hold. In order to plan new roles, the services needed by the patient and a way to provide them effectively should be considered.
6. The professional and the dental hygienist will both give up some of their traditional functions in order to expand their roles. In medicine, Levy suggests that the transfer of physicians' functions to others is easier when the task is routine and technical. One reason that physicians are reluctant to accept physician's assistants, he says, is their desire to remain in control of the medical care system. Delegation of a task could become a surrender of power. It could also mean loss of income. The physician's income is highly correlated with what he does.(14)
7. The dental hygienist of the U.S. will have to face a sacred value change in order to accept restorative as well as preventive roles.
8. Roles which dental hygienists could consider to provide expansion of their responsibility and development are: expanded dental hygiene, dentistry, dental auxiliary education, dental health or health education.
9. Both professionals and consumers will have to be convinced that auxiliaries can perform some of the professional's technical tasks with no loss of quality.

Conclusion

In conclusion there seem to be several observations which may be made from the review of the expanded operating dental auxiliary programs and experiments of Canada, the U.S., and New Zealand. These are that:

1. Auxiliary roles expand first in developing areas where there are manpower shortages or maldistributions. Consumer acceptance in the same regions is probably easier to obtain also.
2. Expanding traditional functions is more difficult in developed areas where role concepts are deeply established within professionals, auxiliaries, licensing bodies, educators, and consumers.
3. Professionals and auxiliaries are most comfortable in the roles which they have been taught. Role changes have occured most readily when they came from outside the profession, for example: government programs like the DAU and TEAM Programs and the School Dental Nurse Programs of New Zealand have been effective because they in effect teach roles.

Professionals and dental hygienists might well listen to some advice given to nurses in the mid-fifties when their roles were changing from bedside nursing to supervision of others in providing bedside care: "The function of nurses in the past has been highly important. Their emerging role can be even more significant, if by combining old values with new techniques they can bring fuller potential to realization. This potential can be developed only if nurses can free themselves of some of their ties with the past and can move toward their future with flexibility in the acceptance and use of new means for attaining their personal and professional goals."(15)

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OCTOBER IS CFDE MONTH

OCTOBER IS CFDE MONTH and $35,000 will be sought from the dental and dental hygiene professions during the annual campaign of the Canadian Fund for Dental Education.

Approximately 8,000 dentists and 1,000 dental hygienists will be asked for their support of CFDE's programs and goals on behalf of dental education and research. Major grants already approved by the trustees for 1974 include:

Teacher/researcher training awards	$46,750
Grants to dental schools	$10,000
Research, teaching and students' conferences	$15,400
Accreditation programs	$15,648
Dental auxiliary workshop conference	$ 6,000
Student table clinic program	$ 4,000

These plus other awards will provide a record shattering $105,000 of badly needed assistance. In addition, CDHA is hopeful that funding will be approved for implementation of three proposals pertaining to dental hygiene education.

All contributions from dental hygienists are held in a special account for their benefit. To this fund is added interest on CDHA's trust fund of $3,500, an annual contribution from the Proctor and Gamble Company and donations from the national, provincial and local dental hygiene associations.

All gifts are tax deductible and are acknowledged in the Fund's annual report published in the CDA Journal. Those who contributed $100 or more are designated as "Honor Members" of CFDE.

IF DENTISTRY MATTERS, SO DOES DENTAL EDUCATION – PLEASE GIVE! SEND IN YOUR CONTRIBUTIONS TODAY. WHAT BETTER WAY OF EXHIBITING YOUR VITAL INTEREST IN THE DENTAL AND DENTAL HYGIENE PROFESSIONS AND THEIR FUTURE STRENGTH.

CFDE Contributors/Donateurs au FCED

1973 CDHA Convention Committee
Clark, Mrs. S.K., Newmarket, Ont.
Donovan, Mrs. H.L., Regina, Sask.
Franzgrote, Mr. H.E., Maxville, Ont.
French, Mrs. S., Toronto, Ont.
French, Mrs. S.B., Ottawa, Ont.
Gardner, Mrs. W.J., Vancouver, B.C.
Kline, Mrs. C., Vancouver, B.C.
Lawson, Miss F., Vancouver, B.C.
Nichols, Miss S.J., Winnipeg, Man.
O'Brien, Miss M.L., North Vancouver, B.C.
Pierroz, Miss P.M., Hamilton, Ont.
Weich, Miss M.J., Vancouver, B.C.
Wood, Miss A.E., Toronto, Ont.
Zambolin, Mrs. L.L., Dartmouth, N.S.

In addition, some contributions were received too late for publication.

1974 AWARDS TO GRADUATE HYGIENISTS

The Board of Trustees of the Canadian Fund for Dental Education awarded teacher training fellowships to four graduate dental hygienists in 1974. The recipients of the awards are:

Heather Anne Hagerman, a 1973 graduate of the University of British Columbia who recently completed a Bachelor of Science degree and is now working towards a Masters of Education degree at Idaho State University;

Wendy Anne Halowski, a 1971 graduate of the University of Manitoba who is pursuing a Bachelor of Allied Health Sciences degree at the University of Kentucky;

Lynn Marie Grace Jones, a 1968 graduate of the University of Toronto who recently completed a Bachelor of Arts degree majoring in Sociology and is now working towards a Masters Degree at the Ontario Institute for Studies in Education; and

Cynthia Eileen Lauriente a 1973 graduate of the University of British Columbia who is pursuing a Bachelor of Science degree in the area of human biology at U.B.C.

CONFERENCE ON DENTAL AUXILIARIES

In January of 1974, one hundred and twenty-two delegates representing the dental and dental auxiliary professions met in Banff for the CDA Conference on Dental Auxiliaries. The Conference supplied the first major link in communication among the Canadian dental team and results of the intensive workshop discussions are being considered cooperatively by the respective associations with a view to establishing guidelines on the short and long range objectives needed for the education, licensure and practice of dental auxiliaries in Canada. The CDHA would like to acknowledge the CFDE for their financial assistance for the conference.

SOURCES OF SUPPORT 1963 - 1973

Canadian Fund for Dental Education

	Amount	% Total
Dentists, Dental Hygienists and other Individuals	$415,513	42
Business and Industry	287,791	29
Canadian Dental Association and other Dental Organizations	230,474	23
Interest and Other Income	64,458	6
Total income	$998,236	100

In 1973 the Fund expended in total $76,812 in support of new and established programs to help meet the urgent priorities in dental education. This included the following grants and allocations:

11 teacher training fellowships for dentists
3 teacher training fellowships for dental hygienists
2 dental technology scholarships
6 dental hygiene scolarships

Of the total $52,131 was expended for fellowships and scholarships.

Teacher Training Fellowships

Along with the great demand for more dental professionals, there is a serious need for qualified teachers. CFDE has always been aware of this and over the years has allocated a major part of available funds to assist dentists in becoming education and research workers in our dental schools.

Since the program was established in 1964, 122 fellowships have been awarded to dentists.

Recognizing the growing need for qualified auxiliaries, the Fund also awarded three fellowships to dental hygienists in 1973 to assist them in pursuing teaching careers. All told four such awards have now been made with a value of $8,100.

All fellowship recipients must certify that they intend to teach on a full-time or half-time basis at an institution conducting a program of undergraduate professional education in dentistry or dental hygiene accredited by the Canadian Dental Association. Minimum responsibility in this regard consists of one year's service to a faculty for each year of support.

Scholarships for Dental Auxiliaries

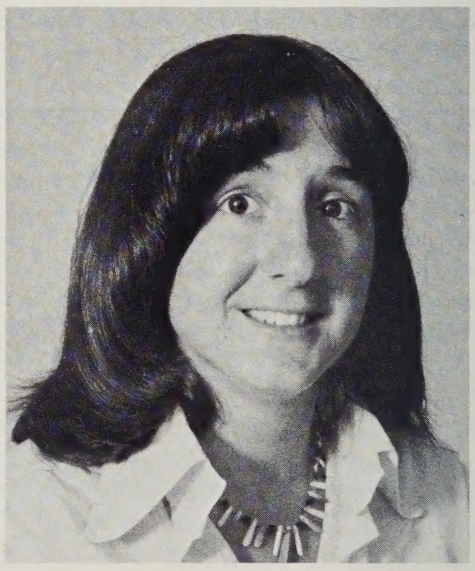
Last year, six $200 scholarships were awarded to student hygienists, one in each of the universities offering a course in dental hygiene. In addition to special funding from CFDE and income from the Canadian Dental Hygienists' Association's endowment fund, the major source of money for this program is annual individual gifts from hygienists and national and provincial hygienists' associations. Twenty-one scholarships have been awarded, since the program started in 1970.

In 1973, two scholarships of $250 each were awarded to dental technology students at George Brown College in Toronto. The trustees also approved expansion of the program, starting in 1974, to include similar scholarships for students attending the Northern Alberta Institute of Technology.

TWO AWARD WINNERS ACKNOWLEDGE CFDE

Lynn Jones

"The CFDE fellowship grants have been a tremendous financial assistance for me. They have enabled me to attend classes on a year round basis and the reduction of the necessary time for undergraduate studies has been an important factor in permitting me to continue on to graduate work. I am pleased to have this opportunity to thank those who have supported me through their active encouragement and their financial donations to the CFDE. I greatly appreciate this support and I look forward to the future when my new skills and knowledge may assist in the advancement of dental hygiene and in the improvement of the dental health of the community."



Cynthia Lauriente

"I greatly appreciate receiving my CFDE fellowship award. Without it, it would have been very difficult to finance three more years of university education. I consider it a privilege and an honor to have been chosen to receive an award this year."

SOURCES DES DONS: 1963 - 1973

Fonds canadien pour l'enseignement dentaire

	Montant	% Total
Dentistes, hygiénistes dentaires et autres personnes	$415,513	42
Firmes commerciales et industries	287,791	29
Association dentaire canadienne et autres organismes dentaires	230,474	23
Intérêts et autres revenus	64,458	6
Revenu total	$998,236	100

Au cours de 1973, le Fonds dépensa au total $76,812 pour appuyer les programmes nouveaux ou déjà établis, afin de subvenir aux besoins des priorités urgentes du domaine de l'enseignement dentaire. Ces dépenses comportent l'attribution des octrois suivants:

11 bourses d'études de formation professionnelle aux dentistes
3 bourses d'études de formation d'enseignants aux hygiénistes dentaires
2 bourses d'études en technologie dentaire
6 bourses d'études en hygiène dentaire

Sur le total, $52,131 furent consacrés aux bourses de recherches et aux bourses d'études.

Bourses de Formation Professionnelle aux Enseignants

En plus d'une demande considérable réclamant un plus grand nombre de membres de la profession dentaire, il faut aussi noter une requête du même genre relative aux enseignants compétents. Le FCED a toujours été conscient de la situation et il a consacré la majeure partie des fonds disponibles pour aider les dentistes à devenir des enseignants et des chercheurs dans nos écoles dentaires.

Depuis les débuts du programme en 1964, 122 bourses de formation professionnelle ont été décernées aux dentistes.

Conscients du besoin croissant d'auxiliaries compétents, les responsables du Fonds ont aussi octroyé, en 1973, trois bourses de formation professionnelle à des hygiénistes dentaires afin de permettre la poursuite de leurs carrières d'enseignants. Dans l'ensemble, quatre bourses de cette nature ont été octroyées, représentant une valeur totale de $8,100.

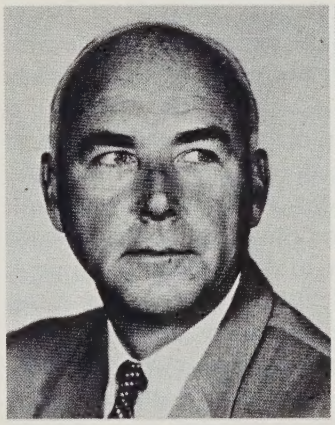
Tous les boursiers doivent certifier leur intention d'enseigner, à temps complet ou à temps partiel, dans une institution offrant un programme d'enseignement professionnel conduisant à un diplôme en dentisterie ou en hygiène dentaire, reconnu par l'Association dentaire canadienne. L'engagement minimal en cette matiere comprend une année de services dans une faculté, pour chaque année subventionnée.

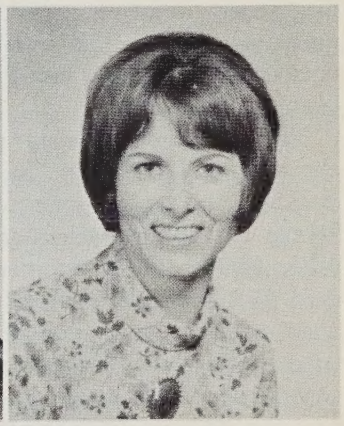
Bourses d'études aux Auxiliares Dentaires

L'an dernier, six bourses de $200 chacune furent octroyées aux étudiantes hygiénistes, une pour chaque université offrant un cours en hygiène dentaire. En plus des subventions spéciales provenant du FCED et du revenu versé par le Fonds de dotation de l'Association canadienne des hygiénistes dentaires, la source principale du financement de ce programme comportait des dons individuels offerts par les hygiénistes et les associations nationale et provinciale d'hygiénistes. Depuis l'inauguration du programme en 1970, vingt et une bourses ont été ainsi attribuées.

En 1973, deux bourses d'études de $250 chacune furent décernées à deux étudiants en technologie dentaire du George Brown College de Toronto. Les fiduciaires ont aussi approuvé l'expansion du programme, à compter de 1974, afin d'y inclure des bourses similaires aux étudiants inscrits au Northern Alberta Institute of Technology.

CFDE APPOINTMENTS





M.E. Bower, Chairman, has announced the following appointments to the Canadian Fund for Dental Education Board of Trustees.

John W. Neilson, D.D.S. — Vice-Chairman of the Board
Miss Ingrid Kleysteuber — Secretary to CFDE

Dr. Neilson, Dean of the University of Manitoba Dental School, replaces the late C.E. Peirce as Vice-Chairman. Dr. Neilson was first appointed a Fund Trustee at the CDA Board of Governors meeting in September 1971. Previously he had served as Chairman of CFDE's Advisory Committee on Fellowship Selection for a three-year period commencing in 1967.

Miss Ingrid Kleysteuber's appointment reflects her expanded duties with CFDE. She has worked for the Fund since June 1967, when she arrived in Canada from Cologne, Germany. She was formerly employed as Secretary to the Scientific Adviser of the Bayer Dental Division.

NUTRITION CANADA NATIONAL SURVEY SUMMARY OF REPORT

HEALTH AND WELFARE, CANADA

Nutrition exerts a strong impact on health and the quality of life. It affects physical and mental development, susceptibility to disease and ability to resist infection and tolerate stress. An adequate understanding of our nutritional status will direct Canadians to undertake measures necessary to alleviate their nutritional problems. Nutrition Canada was initiated to obtain this understanding. Over a period of two years (October 1970 to October 1972), special clinics were held in low and upper income communities, in rural, urban and metropolitan areas to examine thousands of Canadians, men and women, young and old, in summer and in winter. The study covered the provinces and territories and included a sample of Indians on reserves and Eskimos in settlements. The entire effort represents an outstanding example of federal-provincial coordination and cooperation.

The basic findings of the survey are contained in a 184-page report released by the Department of National Health and Welfare and available through Information Canada bookstores.

It is important to recognize that in surveys of this magnitude, there is often a bias towards a better nutritional picture than actually exists since people with nutritional and other health problems often shy away from such surveys.

The Nutrition Canada survey shows that a large proportion of adults in Canada are overweight. Caloric intakes alone do not seem to account for this problem. People who are overweight and those who are not do not differ greatly in the number of calories they consume. Two factors may be involved; first, small caloric excesses over long periods of time, and secondly, a sedentary life style. Both caloric intake and physical activity must be considered in the development of overweight. Over the past few decades, Canadians have reduced their physical activity to minimal levels. This new life style has deleterious consequences. Elevated levels of serum cholesterol are common among adult women and men in Canada.

Iron deficiency is shown to affect large numbers of Canadians in all ages. Many women have an iron deficit during pregnancy and many children (0 to 4 years) have low iron stores. These children will not likely attain normal tissue storage of iron if their iron intakes subsequently remain marginal. Iron deficiency has often been viewed as a problem of infants and women only. The survey findings show it to be a problem for children and men as well.

The results of Nutrition Canada also show a protein and/or caloric deficit among some pregnant women and a small proportion of children under 5 years of age. There is no doubt that a number of pregnant women do not consume adequate amounts of protein and many have low total serum protein levels. At the root of this protein deficit are probably unsatisfactory eating practices among some adolescent girls and adult women. The consequence can be a child disadvantaged because of low birth weight and inadequate nutrition. The importance to both the mother and child of adequate nutrition prior to and during pregnancy warrants major emphasis from all concerned with public health.

Shortage of calcium and vitamin D in the diets of many infants, children, adolescents, and pregnant women is another problem documented by Nutrition Canada. Adequacy of calcium and vitamin D during growth is essential for building a healthy skeleton and maintaining it throughout adult years. While the shortage of vitamin D is not severe enough to have resulted in any observed cases of rickets, such cases are still known to exist in Canada. Since milk is the major dietary source of vitamin D, the shortage in dietary vitamin D indicates a low consumption of milk by many children, adolescents, and pregnant women.

There is evidence of vitamin C deficiency among Eskimos and to a lesser extent among Indians, and the General Population. The evidence includes clinical signs suggestive of vitamin C deficiency, low levels of serum vitamin C and a deficit of the vitamin in the diet.

Moderate thiamin deficiency was seen in many adults, particularly men, in the General and Indian Populations. The status of riboflavin and niacin appears satisfactory.

There is a moderate vitamin A deficit among pregnant Indians and Eskimos. Low serum levels of vitamin A were also observed in many infants and toddlers. However, dietary intakes among the infant and toddler group and among older children are satisfactory. There is no indication of vitamin A deficiency among adolescents and adults in the Indian, Eskimo or General Population.

A surprising finding of the study is that large numbers of Canadians of all ages have low serum folate values. However, there is no clear clinical evidence of folate deficiency anemia. It is not possible to assess the clinical significance and public health consequences of these findings without further hematological studies and an evaluation of dietary folate intakes. Folic acid, one of the B vitamins, plays a major role in the metabolism of the nucleic acids responsible for transfer of hereditary characteristics among cells. Low levels in the serum are generally associated with low levels in tissues. This observation of Nutrition Canada should be viewed with concern, and appropriate steps taken to determine its significance to health.

The prevalence of moderate enlargement of the thyroid in the General Population is another finding that requires further elucidation as to its cause. Urinary iodine excretions indicate the amounts of iodine consumed are well in excess of the minimum intakes. It is

unlikely that the goitre observed can be attributed to iodine deficiency. There is considerable variation in prevalence rates in different parts of the country; the highest rates occur in the prairie regions. It is evident that further research is required to define the cause and clinical significance of this finding.

Preliminary analysis of the results for the General Population revealed no consistent effect of season, income or community type on the nutritional status. The data collected for the Indian and Eskimo populations have not yet been analyzed for these characteristics. Nutrition problems are essentially the same in summer as in winter and in metropolitan as in urban and rural areas. The fact that communities classified above the poverty line are generally plagued with the same nutrition problems as those in the poverty zone suggests that for most the critical factor is not money alone. The preliminary analysis included a comparison of nutritional status between *low* income areas and *other* income areas. Further analysis in terms of individual family incomes may give some indication of income levels below which nutrition problems are related primarily to food dollars rather than to nutrition knowledge and eating practices.

Nutrition Canada has documented specific nutrition problems. On this basis, the report "Nutrition Canada National Survey" proceeds to set nutrition priorities. In so doing, it recognizes the right of every Canadian to be well nourished. Government policies, industry's actions and consumer attitudes should be geared towards the fulfillment of this right. Now that the Nutrition Canada Survey is completed, Canada is in a strong position to formulate a National Nutritional Policy. Priorities need to be set and roles of government, industry and consumers defined. Mechanisms for monitoring the nutritional health of the nation should be established and systems developed for dealing with nutrition problems before they reach serious proportions and adversely affect the quality of life.

The Report proposes the following priorities:

Priority A: To strengthen the government regulatory role in ensuring that the Canadian food supply is nutritionally adequate. Every effort should be made to formulate and implement nutrition standards for foods sold in Canada.

Priority B: To develop effective programs by government and industry to inform and motivate the Canadian public to realize the value of nutrition. Many of the current nutrition problems could be significantly reduced if the consumer had the knowledge and motivation to select foods more wisely and adopt better eating practices. It is essential that industry develop and promote foods which enhance such programs.

Priority C: To emphasize the concerns of certain segments of the population when developing nutrition education programs. For example, pregnant women and mothers are highly motivated towards nutrition and other health subjects. Children's response to persuasion through advertising might be used to help develop good eating habits. A well-executed nutrition component in the school curriculum would have a beneficial influence on eating practices, not only of the school children themselves but of their families as well. Adults could benefit greatly from well-planned food selections in cafeterias and availability of gymnasium facilities at places of work.

Priority D: To emphasize that it is the responsibility of the individual to adopt sound eating habits. Consumers should seek out reliable nutrition information and selectively purchase nutritious foods and reject foods that offer little nutrition. Organized consumer and community-based groups, representing the interest of all Canadians as consumers, should launch vigorous complaints to promote this concept among all consumers.

Priority E: To gear the training of professionals to meet the existing needs in society. University graduate programs should focus on community nutrition, nutrition education and nutrition in food technology. The subject of nutrition as it relates to public health problems should also be introduced in medical curricula.

Priority F: To develop systems for the monitoring and surveillance of the nutritional health of Canadians to allow early detection of problems and initiation of corrective measures.

The report voices the concern that many of the nutrition problems revealed by Nutrition Canada have been suspected for many years. Hopefully, now that these problems are adequately documented, governments will strengthen their regulatory and education programs, industry will show more concern for the nutritional quality of food products and consumers will experience the benefits derived from wise eating habits.

(Copies of the Nutrition Canada National Survey Report are available to the public from Information Canada bookstores in Halifax, Montreal, Ottawa, Toronto, Winnipeg and Vancouver. They can also be ordered by writing to Information Canada, 171 Slater Street, Ottawa, Ontario K1A 0S9. Cost of the report is $2.75.)

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L'ENQUETE NATIONALE NUTRITION CANADA
RESUME DU RAPPORT
SANTE ET BIEN-ETRE SOCIAL CANADA

La nutrition a un impact important sur la santé et la qualité de la vie. Elle influence le développement physique et mental, la réceptivité aux maladies, de même que l'aptitude à résister aux infections et à tolérer le stress. La compréhension adéquate de notre état nutritionnel amenera les Canadiens à prendre les mesures nécessaires pour diminuer leurs problèmes nutritionnels. C'est pour parvenir à une telle compréhension que l'enquête Nutrition Canada a été mise sur pied. Durant une période de deux ans (d'octobre 1970 à octobre 1972), des consultations spéciales ont été organisées dans les collectivités rurales, urbaines et métropotitaines en vue d'examiner des milliers de Canadiens, riches ou pauvres, jeunes ou vieux, hommes ou femmes, durant l'hiver comme durant l'été. L'enquête s'étendait à toutes les provinces et aux territoires; elle comprenait également un échantillonnage des populations indiennes et esquimaudes dans leurs milieux propres. L'ensemble des efforts déployés offre un exemple remarquable de coordination et de coopération fédérale-provinciale.

Les résultats fondamentaux de l'enquête ont été compilés dans un rapport de 184 pages publié par le ministère de la Santé nationale et du Bien-être social du Canada, disponible dans les librairies d'Information Canada à compter d'aujourd'hui.

Les gens souffrant de problèmes de santé ou de nutrition ont souvent tendance à fuir de telles enquêtes. Il est donc important de reconnaître la possibilité, dans une enquête de cette ampleur, d'une image trompeuse de saines habitudes nutritionnelles parmi la population, certaines carences n'étant pas facilement admises par leurs victimes.

L'enquête Nutrition Canada démontre qu'une très grande proportion de la population adulte canadienne souffre d'obésité. L'absorption de calories ne suffit pas à elle seule à expliquer ce problème. Il n'y a pas une grande différence entre le nombre de calories consommées par les personnes obèses et par celles qui ne le sont pas. Deux facteurs peuvent être impliqués; d'abord, de petits excès caloriques sur de longues périodes de temps et, deuxièmement, un style de vie sédentaire. L'absorption de calories et le degré d'activités physiques sont deux facteurs à considérer face à l'obésité. Au cours des dernières décennies, l'activité physique des Canadiens a été réduite à un niveau minimal. Ce nouveau style de vie a de facheuses conséquences: tant d'hommes que de femmes présentent fréquemment un taux élevé de cholesterol sérique à travers le pays.

Une grande proportion de Canadiens de tout âge semble souffrir d'une carence en fer. Nombre de femmes enceintes souffrent d'une telle carence et plusieurs enfants (0 à 4 ans) n'ont que de faibles réserves de fer. Pour ces enfants, il est peu probable que ces réserves de fer atteignent par la suite leur niveau normal dans les tissus, si l'absorption subséquente de ce minéral demeure marginale. Les carences en fer ont souvent été considérées comme un problème concernant uniquement les femmes et les nourrissons. Les résultats de l'enquête démontrent que les enfants et les hommes sont également touchés.

Les résultats de Nutrition Canada indiquent aussi une consommation insuffisante de protéines et/ou de calories chez les femmes enceintes, de même que chez une faible proportion des enfants de moins de 5 ans. Il ne fait aucun doute qu'un nombre appréciable de femmes enceintes ne consomment pas de protéines en quantité suffisante et que beaucoup d'entre elles ont un faible taux sérique de protéine. De mauvaises habitudes alimentaires, chez les adolescentes comme chez les femmes adultes, sont sans doute à l'origine de cette carence protéique. Comme résultat, des enfants peuvent nâitre désavantagés par un faible poids et par une mauvaise nutrition. L'importance pour la mère et l'enfant d'une bonne nutrition, avant et pendant la grossesse, revêt ainsi un intérêt de premier plan pour tous ceux qui sont intéressés à la santé publique.

La carence en calcium et en vitamine D du régime alimentaire d'un grand nombre de nourrissons, d'enfants et d'adolescents, est un autre point confirmé par l'enquête. Un apport adéquat de calcium et de vitamine D durant ce stade de la croissance est essentiel au développement d'un squelette normal et à son maintien dans l'age adulte (bien que cette carence en vitamine D ne soit pas grave au point de se traduire par des cas de rachitisme, de tels cas existent cependant au Canada). Si l'on suppose au départ que tout le lait est enrichi de vitamine D, on peut conclure à une faible consommation de lait chez les enfants, les adolescents et les femmes enceintes, le lait étant la principale source alimentaire de cette vitamine.

On a trouvé des indications d'une carence en vitamine C chez les Esquimaux et, à un degré moindre, chez les Indiens et la population en général. Ces indications comprennent entre autres des signes cliniques suggérant une telle carence, un faible taux de vitamine C sérique et une carence de cette vitamine dans le régime alimentaire.

Des carences modérées en thiamine ont été relevées chez de nombreux adultes, en particulier les hommes, dans la population en général et la population indienne. Les niveaux de robiflavine et de niacine sont pour leur part satisfaisants.

On note une carence modérée en vitamine A chez les femmes indiennes et esquimaudes enceintes. Un faible taux sérique de cette vitamine a également été observé

chez les nourrissons et les tout jeunes enfants. L'apport alimentaire en vitamine A chez les nourrissons, les jeunes enfants et les enfants est satisfaisant. De plus, on n'a découvert aucun signe de carence de vitamine A chez les adolescentes et les adultes de tous les groupes.

Un résultat surprenant de cette enquête fut la découverte du faible taux des folates dans le sérum d'un grand nombre de Canadiens de tout âge. Cependant, il n'y a aucune évidence clinique d'anémie nutritionnelle due à une carence en folates. Il est impossible pour le moment de juger de la valeur clinique et des conséquences pour la santé publique d'une telle découverte; des études hématologiques plus poussées et une évaluation de l'apport alimentaire en folates sont d'abord nécessaires. L'acide folique, l'une des vitamines B, joue un rôle important dans le métabolisme des acides nucléiques responsables de la transmission des caractères héréditaires d'une cellule à l'autre. Un faible taux sérique est habituellement lié à un faible taux tissulaire. Cette observation doit par conséquent être étudiée sérieusement pour déterminer son importance pour la santé.

La fréquence de l'hypertrophie modérée de la thyroide est une autre constatation qui doit être éclaircie, ses causes demeurant obscures. Les données relatives à l'excrétion de l'iode urinaire indiquent des apports alimentaires excessifs d'iode. Il est peu probable que le groitre observé soit imputable à une carence en iode. Les taux de fréquence, en outre, présentent des variations considérables selon les différentes parties du pays, les plus élevés se manifestant dans les Prairies. Il paraît évident qu'il faut des recherches plus poussées si l'on veut déterminer la cause et l'importance clinique du probleme.

Une analyse préliminaire des résultats sur la population en général n'a révélé aucun effet consistant des saisons, des niveaux de revenu ou des genres de collectivité sur l'état nutritionnel. Ces mêmbes éléments n'ont toutefois pas encore été considérés en ce qui concerne les données recueillies chez les populations indiennes ou esquimaudes. Les problèmes nutritionnels sont essentiellement les mêmes, été comme hiver, que ce soit dans les régions métropolitaines, urbaines ou rurales. Le fait que les collectivités classées au-dessus du seuil de pauvreté soient en général affligées des mêmes problèmes nutiritionnels que celles classées au-dessous donne à penser que le facteur critique n'est pas seulement le nombre de dollars consacrés à l'alimentation. L'analyse préliminaire comporte une comparaison du statut nutritionnel dans les secteurs à faible revenu et dans d'autres secteurs de revenu. Une analyse plus poussée des revenus de chaque famille pourrait fournir quelque indication des niveaux de revenu en dessous desquels les problèms nutritionnels sont essentiellement liés aux dollars consacrés a l'alimentation, plutôt qu'aux connaissances sur la nutrition ou aux habitudes alimentaires.

C'est à partir des données recueillies sur des problèmes nutritionnels particuliers que le rapport de Nutrition Canada a établi des priorités. Le rapport reconnait ainsi à chque Canadien le droit d'être bien alimenté. Les politiques gouvernementales, la participation de l'industrie et l'attitude des consommateurs devront viser à faire respecter ce droit. Maintenant que l'enquête est terminée, le Canada est très bien placé pour formuler une politique nationale de la nutrition. Il faut que des priorités soient établies, comme il importe que le rôle spécifique des gouvernements, de l'industrie et du consommateur soient nettement défini. Des mécanismes de surveillance pour la santé nutritionnelle de la nation doivent être établis. Il faut en outre mettre au point des systèmes propres à faire face aux problèmes avant qu'ils n'atteignent des proportions démesurées et n'affectent sérieusement la qualité de la vie.

Le rapport propose les priorités suivantes:

Priorité A: Imposition de mesures législatives plus rigoureuses pour s'assurer que les approvisionnements alimentaires canadiens possèdent les qualités nutritionnelles nécessaires. On doit tenter par tous les moyens possibles de formuler et d'appliquer des normes nutritionnelles pour les aliments vendus au Canada.

Priorité B: Mise en oeuvre, par les gouvernements et l'industrie, de programmes efficaces visant à informer et à motiver le public canadien, de sorte qu'il prenne conscience de la valeur de l'alimentation. De nombreux problèmes nutritionnels courants pourront être sensiblement atténués si l'on peut suffisamment renseigner et motiver le consommateur pour l'amener à choisir ses aliments plus judicieusement et par là, développer de miellleures habitudes alimentaires. Il est indispensable que l'industrie mette au point et préconise des aliments qui correspondent à ces programmes.

Priorité C: Dans les programmes d'éducation nutritionnelle, mettre l'accent voulu sur les préoccupations et la vulnérabilité de certains secteurs de la population. Les femmes enceintes et les mères, par exemple, sont fortement motivées à l'égard de la nutrition et autres questions de santé. La vulnérabilité des enfants vis-à-vis la publicité doit être mise à profit pour les aider à entretenir de bonnes habitudes alimentaires. Un programme nutritionnel bien conçu, dans les écoles, aura une influence bénéfique sur les habitudes alimentaires, non seulement des écoliers mais de leurs familles également. Les travailleurs pourraient tirer grand profit

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DREAM OR NIGHTMARE
CHILDREN'S DENTAL CARE IN 1984

D.W. LEWIS, D.D.S., D.D.P.H., M.Sc.D.

Dr. Lewis is Chairman of the Department of Community Dentistry at the University of Toronto.

In view of my two predecessors at this session it is perhaps fitting that I have some tough things to say today, things which I think need to be said about children's dental care in this province. Dr. Parrott described two years ago his somewhat controversial views on denturists and last year Dr. Curry of Saskatchewan outlined his province's New Zealand dental nurse oriented children's program – also not a very popular subject. Doubtless some of my comments will be equally unpopular.

I shall first explain my rather bizarre title "Children's Dental Care in 1984 – Dream or Nightmare". Nineteen eighty-four, in addition to the obvious connotation, refers to the fact that children's dental care covering those up to, say, 18 years of age will probably be operative in Ontario by that date. The "Dream" referred to is the wish expressed so poignantly by Martin Luther King in his famous "I Have a Dream Speech" at the time of the March of the Poor on Washington. Dr. King was praying for racial equality – equality of access to opportunity of education, housing and food and I imagine health care as well. The "Nightmare" is the totalitarian, automated, depersonalized, unfeeling state described by Orwell in his book "1984". A nightmare is simply a special type of unpleasant dream. We must achieve the pleasant dream of equality of access to good dental care for all children at reasonable cost but not necessarily by means of a new monolithic, inflexible dental care service. Nevertheless it must be realized that it is possible to achieve high utilization and adequate dental care at reasonable cost with such a system. And indeed this may happen since I believe that unless organized dentistry demonstrates more flexibility, a totally new delivery system which you might describe as a nightmare will emerge from the ashes of our present system. This will occur not because government wants this as a first choice but because the profession's desire to preserve the present system without substantial modification and the profession's insensitivity to the real economic and social issues of the day will force government to do this. Our intransigence is our greatest enemy.

I intend to outline recent recommendations on the organization and provision of health care services in Ontario and some of the implications of these for dentistry. This will be followed by a discussion of present and imminent dilemmas dentistry must face and finally on a positive note some general solutions. In as much as I have little time none of these topics can be treated exhaustively.

Recent Developments

I will refer briefly to two recent committee reports, neither of which is law at the moment although it is clear that many of their features, just as with the previous McRuer and Committee on Healing Arts reports, will be acted upon.

The first report, "Report to the Minister of Health on a Review of the Ontario Health Insurance Plan", was tabled by the Minister in 1973. Nearly all of the committee members were practising physicians. Here is the sense of some of the recommendations in it:

- establishment of a consumer's review committee to identify aberrant patient utilization;
- intensification of the review of doctors' performance to prevent insurance abuses;
- establishment of similar review procedures for other professionals;
- similar O.H.I.P. fees for G.P.'s and specialists doing similar work;
- extensive and energetic evaluation of alternatives to the fee-for-service mechanism of payment;
- establishment of a mechanism for patients to verify costs and services provided;
- the consideration of the introduction of nurse practitioners to general practice as an urgent matter;
- limitation of diagnostic tests to procedures relevant to a patient's condition;
- publicizing and establishing a basic health care package of services;
- limitation of periodic health examination coverage to about seven in the first five years of life, once every ten years between 5 and 44 years of age and once every five years over 44 years of age;
- immunization by nurses to eliminate a special visit to physicians for this purpose alone;
- for present medical fee schedule items utilizing time units, the actual elapsed time not the time units is to be reported.

This report was primarily concerned with the tremendous escalation of health care costs and real or potential abuse by both providers and patients under O.H.P. The Ontario Council of Health in their review of this study stressed the long term need to emphasize incentives for good performance as opposed to mere regulation against poor performance which might be effective solely on a short term basis. The Council was also concerned about the need to measure the effect of procedures on the subsequent health of patients (outcome) rather than just the procedures alone (process).

The second report, "Report of the Health Planning

Task Force" (the Mustard Report), was released in April, 1974. It had as its main term of reference ". . . to develop proposals for a comprehensive plan to meet the health needs of the people of Ontario". The report to quote the Globe and Mail is "revolutionary" and is "produced for discussion". It also will be very influential in health care matters in this province. Basically it promotes regionalization of all health services with the formation of district health councils to manage regional programs and group practices to provide primary health services accessible continuously 24 hours per day seven days per week. Regional autonomy is emphasized by the recommendation that each district council be permitted to determine its mix of facilities and supply of health manpower according to the needs of the region and other factors. To force physicians from well-serviced areas new medical general practicioners and specialists would not be allowed to practise using O.H.I.P. in such regions. A modified fee-for-service system of remuneration, including a capitation scheme for preventive services, was recommended as was the need for definite experimentation with payment alternatives such as salary and global budgeting, etc. For all health professionals a remuneration advisory committee with broad inputs from outside the professions was suggested. The need to achieve optimal efficiency through delegation of duties to auxiliaries and for an effective health audit and peer review monitoring was emphasized.

Implications for Dentistry

For dentistry the implications are then that we can expect regional control of our activities, increased auditing of provider and patient performance under third party payment schemes, and greater concern about the frequency of certain procedures. New types of auxiliaries, group practice and particularly the need to modify the fee-for-service approach to payment (even including procedure times) will be encouraged or legislated.

In summary we can anticipate *diminished control by the dental profession* over dental matters. The imminent denturist legislation and the possible removal of the control by the R.C.D.S. over dental hygienists provide tangible evidence of our lack of immunity and that government can and will alter legislation concerning dentistry. It is notewothy that previous reports recommended this latter action regarding hygienists.

Dilemmas

In looking at particular problems such as dental care, there is a tendency to ignore the general. Keeping in mind some of the health-related issues and recommendations just discussed I would like to review some of these general problems as a series of interrelated dilemmas in which we now find ourselves.

Against the background of rising societal pressure concerning access to good dental health care, escalating health care costs, and a dental profession which has been through circumstance and design the most independent of all the health professions, the principal dilemma as I see it is for us to be able to switch successfully from a private to a public philosophy of dental care. By this I mean not only the broadening of our horizons to include more people – but also the need to question the rational, scientific basis of our current practice procedures and fees and where necessary to modify these in the interest of the public good. This is going to be tough but these adjustments will simply have to be made if we wish to preserve the present basic structure for the provision of dental care.

The concept of more dental care for more people also might include the uncomfortable realization that for some current patients this will mean a little less care received. Another facet of this concern is the recognition of, and subsequent dedication to the principle that good dental health status of all persons is the ultimate goal of the dental care delivery system and not simply good dental care for those who happen to demand and receive services. As the profession traditionally and principally responsible for dental health care we can settle for nothing less but our program proposals to achieve this must be tempered by the necessity to perform in the most effective and efficient manner possible. This will require some change.

Another area of concern which busy general practitioners are often understandably not aware of, relates to the current dental health status of the public here relative to other places. While with characteristic rhetoric we claim one of the best standards of dental care relative to other similarly developed areas in the world (without any good substantiating evidence that this is true, I might add), the fact is that the levels of dental care achieved in many other parts of the world are superior in spite of the relatively high and escalating dental care expenditures here. Uneveness of dental care in this province is evident. For example, we find that in Ontario 60% of the decayed teeth of seven-year-old children are not filled which while not good, is much better than the figure of 85% decayed teeth not filled in parts of Eastern Ontario. Nearly one-third (29%) of children 5 to 7 years of age have already lost by extraction at least one permanent tooth even though as you well know these teeth just begin to erupt at this time. Regarding malocclusion, at age 13 about one in five Ontario children require orthodontic care because of a severe malocclusion but only one in fifty receives it. That is a big gap. We've got a long way to go to lower disease levels and to close these gaps between treatment needed and achieved.

Another major dilemma involves the need to provide more services per capita to more people without tremendous escalation of costs. This is not necessarily an impossible task. The scarcity of fiscal resources relative to the many alternative health and non-health uses to which these resources may be put has caused many to question the fee-for-service mechanism of payment. While many seem to claim that this mechanism should be studied as should alternative ways to paying for services, it is not clear that a better basic method in a private practice scheme exists. However a modified

fee-for-service program is required and we should tackle this problem now. In dentistry it is conceivable that with the use of expanded function and other auxiliaries and with multiple procedures in one quadrant with or without the use of expanded function auxiliaries, fees can be lowered. The exact amount of this reduction considering the extra expense and supervision needed with auxiliaries, for example, is not known; however the possibility of some lowering of fees is evident. I think we should show government that we recognize this and take positive steps ourselves to make these modifications mandatory, rather than optional. If we do not, others subsequently may do this for us.

The scarcity and distribution of dental manpower also creates dilemmas. The first question is do we have sufficient manpower in this province to mount a provincial private practice children's dental care plan. In studies commissioned by the Ontario Dental Association last Fall we suggested that sufficient dentists to provide services for a dental care program for children up to 13 years of age in Ontario will exist only if this supply of dentists' services is augmented by new expanded function dental auxiliaries such as the P.E.I. hygienists, working directly with dentists. For a children's program and for more care to adults about 300 of these new auxiliaries are needed annually. It was clear that some form of incentive scheme to encourage many of these auxiliaries and dentists to areas with anticipated deficiencies of services is also required and that for some areas mobile clinics, utilizing salaried personnel, are required. This personnel distribution problem emphasizes the need to recognize that private practice as you and I know it today won't work as the sole delivery mechanism throughout this huge province. And yet a fear which I can only describe as paranoia seems to grip some members of our profession when mobile clinics are suggested. Opposition against the use of such clinics as an example of the "thin edge of the wedge" argument is one of the factors which may lead to the defeat of the profession's proposals, in light of the credibility gap such an attitude creates.

Another dilemma relates to the rational, empirical basis for the content and frequency of the diagnostic and preventive services we consider essential for children since these services will come under close scrutiny soon. The test of adequacy of the need and frequency of need for these services is improved dental health in the long run for those receiving them over those not receiving them so often. For example, can we justify two annual examinations for all children; or bite-wing radiographs twice yearly; or what about the frequency of full-mouth x-rays for children; or for most children two topical fluorides yearly or at all in full water-fluoride areas; and what about the real effect of expensive plaque control programs on many children. The dental literature suggests some of these procedures which we have accepted rather glibly on intuition and faith, and perhaps because of financial incentives or the conventional wisdom of our dental school teachers and others, are not necessarily in the best economic interests of the patient. They may do no harm but do they do any measurable good. Some may suggest that I am recommending a lowering of quality of care when I say, for example, that since probably all children don't require two examinations annually, this should not be built automatically into a government plan. If the extra appointment is not needed which alternative is truly poor quality? Another reason for my concern is that the elimination of "non-essential" procedures taking just 15 minutes of treatment time per child annually for children 3 to 13 years of age in Ontario would be equivalent to an annual saving of the total hours of service provided by nealy 200 full-time dentists, in other words more than the annual output of the two dental schools here. And this need for 200 extra dentists would continue each year ad nauseum. I should stress that the evidence concerning some of these situations at the moment is not definitive and that for a small proportion of children a lower frequency of these services might be bad. My main point is that unless we recognize these things and build in appropriate checks and balances to keep our house in order, the crunch will come sooner or later and dentistry will be the loser.

While many more dilemmas exist a final one to mention today is the defintion of the legitimate role of organized dentistry and government in dental health care. There is no question that each has a role and that government's role is increasing. The Minister of Health is ultimately responsible for the quality of dental care in this province. Consequently, he should upon advice, provide central direction to a plan and through his Ministry ensure that the public is well informed about dental health matters, that services of good quality are equitably distributed and that dental and fiscal resources are being utilized in the most effective and efficient manner. Of course these concerns should be common to dentists' interests as well. In the end the balance of governmental and private forces reached will be a political decision. Undoubtedly this decision will appear rational to some and irrational to others. My feeling is that the two sectors need not be antagonistic and that in the final program each sector must work together in a complementary way.

Solutions

Much of what I have said must remind you of Orwell's 1984 but things really do not need to be that gloomy. I think we can develop in co-operation with government a dental care system which will adequately meet future needs by building upon and modifying the present care system. But we must be innovative and open-minded. Let's identify and admit to the defects in the present system. Let's take the initiative and modify the fee schedule and encourage research into other forms of payment. Let's promote more strongly operating dental auxiliaries by considering future dentists not necessarily from our own narrow view which often is coloured by our background training and current practice conditions. If we feel strongly that clinics won't work as well as private practice, let's have the courage of our convictions and put this to the test. Free enterprise

uilt on open competition in the market place.

As dentists we must begin to appreciate more, the nomic consequences of our decisions and perhaps stion more than we have in the past the validity and nomic rationale of some of our current treatments l those that will be promoted in the future. My vious concern about what just 15 minutes extra time child really means in economic and manpower terms uld have a sobering effect here.

We will need increased research to provide the basic rmation system to help decisions and evaluation of grams. Applied research into the best procedures and en they are needed will be required as will research o more effective behavioural modification of patients ause without this, the prospects for some preventive grams are gloomy. We need research into the best m and mix of delivery system since we must be very tious that proposed major shifts in delivery systems, , to a New Zealand nurse scheme are based on sound gement and not simply intuition and faith. A sin to lace a sin remains a sin.

We should argue for the establishement of an apolitic- provincial dental advisory committee made up of lay l government persons, academics and active dental ctitioners to act as the principal advisory group on ntal matters and to ensure that current solutions are ficiently flexible to accommodate future changing ds. This group should have an adequate full-time retarial and research staff. We can strengthen our ument for this by emphasizing that dental care costs lay in Ontario of over $150 M. annually will rise with ldren's denticare to well over $200 M., that is, almost e-half of the level currently paid to physicians. The kes in this game are very high.

Perhaps the main requirement though is to ensure t our profession's representatives in the negotiations h government, are equally sensitive to the needs of public and the profession, and the social and nomic pressures of the times. Their task to convince ptics of the credibility of our proposals since our tivations are not solely monetary and the preserva- n of the status quo, will be made much easier if leed we all believe and demonstrate that this in fact is

The assistance of Christa Wypkema, Research Assistant with Dental Health Care Services and Epidemiology Research Unit he Faculty of Dentistry, is gratefully acknowledged.

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Continued from Page 59

de menus adéquatement selectionnés dans les cafétérias ainsi que, pour combattre l'obésité, d'installations réalistes et viables de gymnase à leur lieu de travail.

Priorité D: Faire ressortir la responsabilité de chacun dans le choix de bonnes habitudes alimentaires. Le consommateur doit prendre sur lui d'obtenir l'information nutritionnelle nécessaire et ne choisir que des aliments de haute valeur nutritive. Des organismes locaux de consommateurs, représentant les intérêts d tous les consommateurs canadiens, devraient lancer des campagnes vigoureuses pour promouvoir ce concept parmi leurs membres et le public en général.

Priorité E: Orienter la formation des spécialistes de façon qu'elle puisse correspondre aux besoins actuels de la société. Les programmes universitaires conduisant à un diplôme en nutrition devraient se concentrer sur l'alimentation de la collectivité, sur l'éducation nutritionnelle et sur la nutrition dans la technologie alimentaire. La nutrition, en ce qu'elle se rapporte aux problèmes d'hygiène publique, devrait être inscrit au programme d'études médicales.

Priorité F: Mettre au point des systèmes de surveillance de la santé nutritionnelle chez les Canadiens, afin de permettre le dépistage précoce des problèmes et l'institution rapide de mesures correctives.

Le rapport fait etat de graves problèmes nutritionnels dont on se doutait depuis bon nombre d'années. Maintenant que les données nécessaires sont disponibles, il est à espérer que le gouvernement renforcera sa réglementation et ses programmes éducatifs, que l'industrie se préoccupera davantage de la qualité nutritionnelle de ses produits et que les consommateurs prendront conscience des bénéfices liés aux bonnes habitudes alimentaires.

(On peut acheter le rapport Nutrition Canada, pour $2.75 aux librairies d'Information Canada ou en écrivant à Information Canada, 171 rue Slater, Ottawa, Ontario, K1A 0S9.)

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SMITH, Mrs. Diane (Griffith) . 1964
YUDIN, Mrs. Linda (Lurie) . . 1964
McCOLL, Mrs. Ruth (Kell) . . 1965
GRYFE, Mrs. J.R. 1965
PELISSIER, Miss Rochelle . . . 1965
SHAW, Mrs. Renee (Swadron) . 1966
STARKMAN, Miss Janice . . . 1966
DEYMAN, Mrs. Carol (Cumming) 1967
JONES, Mrs. Z.U. (Stanaities) . 1967
MINSKY, Mrs. Judi (Shugar). . 1967
SHAPIRA, Mrs. Wendy (Finer) 1967
HORNBY, Mrs. Barbara (Nicholson) 1968
KOYL, Mrs. Pat (Brett). 1969
MILLSTONE, Miss Leah . . . 1969
OLIVER, Mrs. Roberta (Michell) 1970
CALDER, Miss Donna Jean . . 1970

University of Toronto
HIGGINS, Mrs. Laurelyn (Welsh) 1970
MacDOUGALL, Miss Susan . . 1971
RUPERT, Miss Anne 1971
CRUMP, Mr. John Albert . . . 1972
FREER, Miss Gayle Ann 1973

University of Montreal
HELIE, Mrs. Francine 1974
BENARD, Mrs. Carolle (College de Maisonneuve). 1975
PAULHUS, Miss Suzanne (College de Maisonneuve). 1975
Registered in Quebec, but school and year not known
ROSS, Miss Theresa

U.S.A. Schools
Eastman
PATRICK, Mrs. Patricia (O'Brien) 1951
Forsythe
THOMPSON, Mrs. Joan (Rogerson) 1953
University of Pennsylvania
PITTAWAY, Mrs. J.P. (Fritts) . 1954
University of Michigan
FUSCO, Mrs. Jean Ann 1957
ASHTON, Mrs. J.M. 1958
West Liberty State College
GRAY, Mrs. Karan (Coldham) . 1963
Erie
UROWITZ, Mrs. Judith 1963
Temple University
ELLIS, Mrs. Patricia 1966
All above registered in Ontario, Alta. or P.E.I. in last 5 years.

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INVITATION TO
5th INTERNATIONAL SYMPOSIUM
ON DENTAL HYGIENE

July 20, 21, 22, 1975
Tokyo, Japan
Hosted by Japan Dental Hygienists' Association

Fumiko Sasaki, Program Chairman, cordially invites members of national dental hygiene associations to the 5th International Symposium on Dental Hygiene which will convene in Tokyo, Japan, July 20th to 22nd, 1975. The theme of the symposium is THE ROLES PLAYED BY DENTAL HYGIENISTS IN EACH COUNTRY IN THE WORLD AND THEIR FUTURE CHANGES AND DEVELOPMENT, and the program has been designed to provide information and facilitate communication on an international basis. All formal presentations will be given in the speakers' native tongues and simultaneous interpretation will be available.

Program Outline

Speakers representing ten countries have been invited to address the general meeting on the first day of the Symposium. On the second day, participants will be divided into groups to discuss one of three topics related to dental hygiene.

Schedule

Sunday, July 20, 1975	Special Auditorium, Tokyo Medical and Dental University
9:00 - 9:20	Open Session
9:20 - 12:00	General Meeting
12:00 - 14:00	Free Time (Lunch)
14:00 - 17:00	General Meeting
18:30	International Liaison Committee Meeting
Monday, July 21, 1975	Chinzanso
9:00 - 12:00	Group Meetings First Group: Present Dental Hygiene Practices and Their Future Perspective Second Group: Role of Dental Hygienists in Public Health Third Group: Dental Hygiene Education in Expanded Functions
12:00 - 14:00	Free Time (Lunch)
14:00 - 15:00	Group Meetings Continued
19:00 - 21:00	Reception (Hosted by Japan Dental Hygienists' Association)
9:00 - 17:00	Dental Exhibits
Tuesday, July 22, 1975	
Tour to Fuji-Hakone National Park	

Symposium Fee Schedule

Registration fees for Symposium are as follows:

- Members of a national dental hygienist organization Y18,000 (Y22,000) for late registrants)
- All others Y40,000 (Y45,000 for late registrants)
- Those who attend the receiption only Y10,000
- Those who participate in the tour only Y8,000
- Those who participate in the tour and the reception only Y18,000.

The fees must be paid in Japanese yen.

Flights and Accommodation

Fujita Travel Service Co., Ltd. has been designated by the Secretariat of the Japan Dental Hygienists' Association as the official agent to handle accommodations and tour arrangements on behalf of delegates attending the symposium. The official agent appointed for participants from Canada and the U.S.A. is:

Astra International Travel, Inc.
332 S. Michigan Avenue
Chicago, Illinois 60604, U.S.A.
Mr. Rene R. Dolbeau, President

Application Forms

Application forms for the 5th International Symposium on Dental Hygiene may be obtained by writing:

Mrs. Sharon Pitchford, Secretary
Canadian Dental Hygienists' Association
Box 1067
Uxbridge, Ontario, Canada

Registration Procedures

Complete the official application form and send it together with the registration fee to the following address no later than January 31, 1975:

Japan Dental Hygienists' Association
D.H. International Symposium Promoting Committee
201A Gotenyama New Housing,
12-3 Kitashinagawa 5-chome
Shinagawa-ku, Tokyo, Japan

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Toronto, Ontario M5R 2P2

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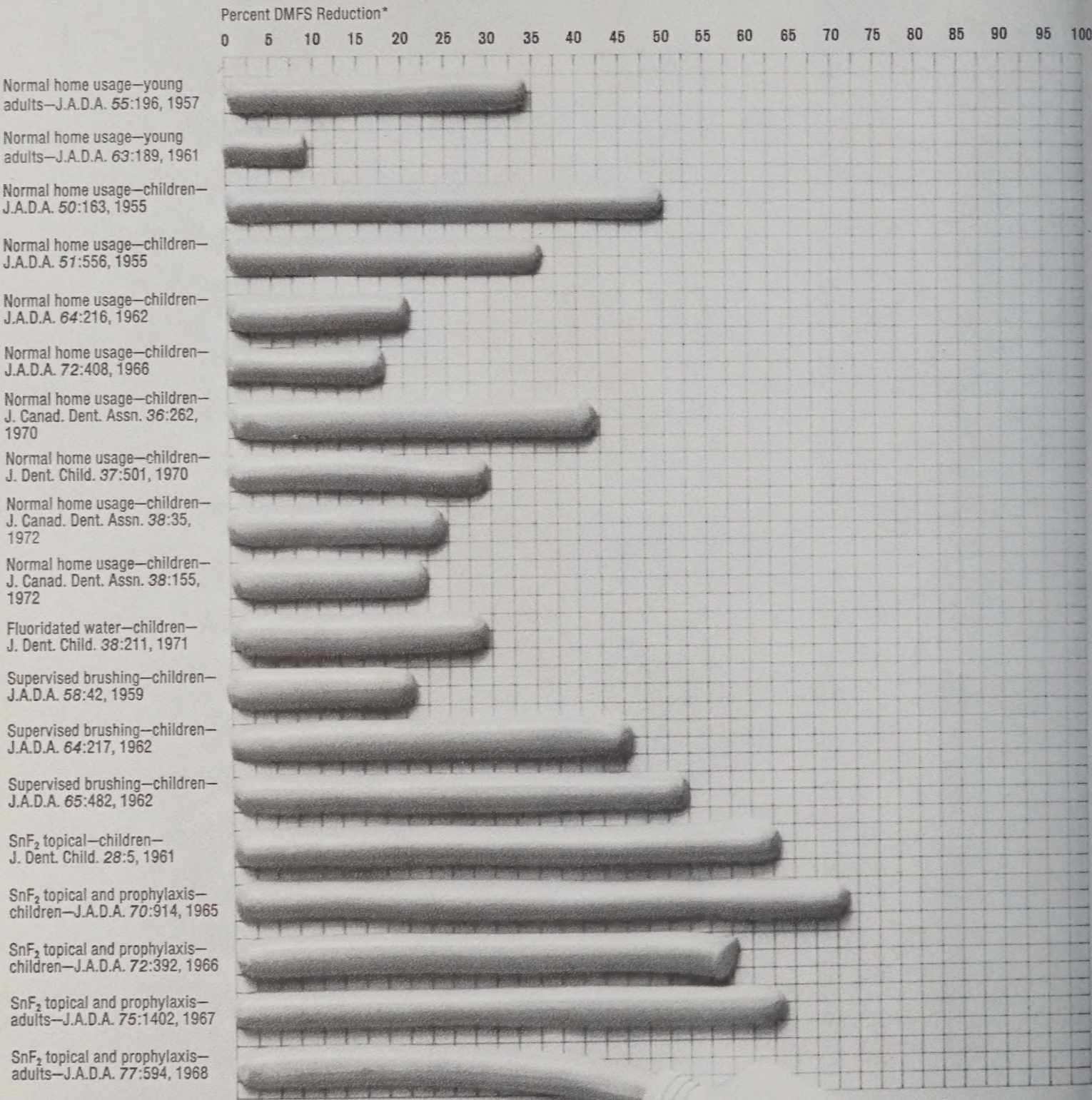

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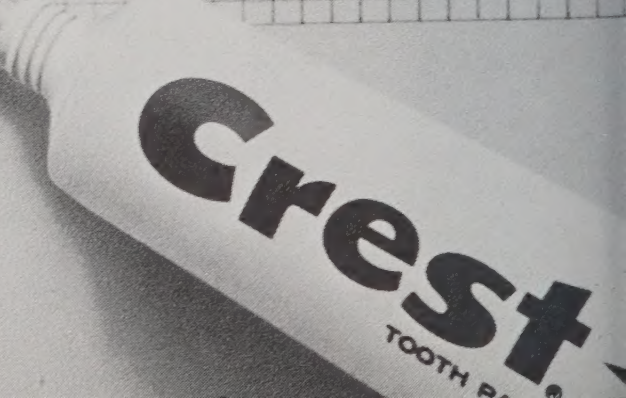

CDHA BULLETIN ACHD

TER 1974 HIVER VOLUME 8, NUMBER 4

DENTAL HEALTH WEEK IN CANADA

The Canadian Dental Association has designated February 2 to 8, 1975, as Dental Health Week in Canada. The theme is "Cavities are mean so keep your teeth clean" and the emphasis will be directed to the value of good oral hygiene and its relationship to dental health.

Dental Health Week in Canada provides an opportunity for all members of the dental health team to participate in specific programs designed to draw the public's attention to the importance of dental health and the prevention of dental disease. Information and planning kits are being prepared by the CDA and will be distributed to provincial chairmen of Dental Health Week programs. Publicity aids will include adhesive-backed lapel stickers, paper-stock posters and a 30-second television spot featuring a ventriloquist and hand puppet who talk about how to "keep your teeth clean". A film from Alberta, "The End of Plaque", will be available for purchase, for use as an introduction to an interview on television or as a filler.

We would encourage all dental hygienists to actively participate to make this one of the best weeks ever. Contact the chairman of the Dental Health Week Program in your province and volunteer your services today.

Dr. C. Chicoine
4290 Beaubien St. E.
Montreal, Quebec

Dr. G. Jalbert
55 Emmerson Street
Edmunston, N.B.

Dr. G. Clark
6259 Quinpool Road
Halifax, N.S.

Dr. G.W. Backman
402 Medical Arts Bldg.
Winnipeg, Manitoba

Dr. W.S. Camp
Bldg. 359 Harmon
Stephenville, Newfoundland.

Dr. J.T. Boulton
No. 7 Parkdale Cres. N.W.
Calgary, Alberta

Dr. John Hardie
1296 Yorston Ave.
Quesnel, B.C.

Dr. M.J. Nattrass
710 Medical Dental Bldg.
Regina, Sask.

Dr. R.K. Ryan
Ministry of Health
Public Health Dentistry
15 Overlea Blvd., 54th Floor
Toronto, Ontario

CFDE AWARDS GRANTS FOR CDHA WORKSHOPS

The Canadian Fund for Dental Education recently awarded two grants to the Canadian Dental Hygienists' Association for the development and implementation of workshops pertaining to dental hygiene education. The first is for a workshop for dental hygiene education advisors to be held in conjunction with the CDHA's 1975 annual convention and the second is for a dental hygiene educators workshop on teaching clinical techniques. The proposals for these workshops were prepared and submitted by the CDHA Education Committee under the chairmanship of Joan Voris. Announcements of the workshops and registration information will be prepared and distributed in the new year.

The Canadian Dental Hygienists' Association gratefully acknowledges the Canadian Fund for Dental Education for their continuing support.

INTERNATIONAL WOMEN'S YEAR

You probably know, but just in case you don't or haven't heard . . . The United Nations has declared 1975 to be International Women's Year. It will be a year to focus attention on improving the status of women and promote awareness of the changing role of women in today's society. 1975 will also serve as an occasion for recognition, encouragement, and, hopefully, consciousness-raising for women.

Just to give you an idea of the scope of the program planned by the Women's Year Secretariat, here are some of their plans:

- A national educational and promotional media campaign aimed at influencing attitudes.
- Regional and national conferences designed to create an awareness among Canadians of the changing attitudes towards women.
- Removal of barriers to equality in existing legislation and regulations.
- Funds made available to organizations for projects relating to Women's Year.
- Implementation, by government departments and agencies, of special programs promoting equal opportunity for women.
- An International Seminar of experts, hosted by Canada for the United Nations, to develop a model of government machinery to improve the status of women, which could be adopted by other countries.

Details of Canada's program and other information are available through the International Women's Year Secretariat. All suggestions, comments, questions and ideas are welcome! Please address these to:

Mary Gusella, Director
International Women's
Year Secretariat
Privy Council Office
Ottawa, Ontario K1A 0A3

Is there something you can do to promote equality during International Women's Year?

MEMBERSHIP REMINDER

1975 CDHA membership dues are payable January 1. Active members who do not pay dues for the current year by January 31 and who do not notify their Constituent Membership Chairman will forfeit their membership.

L'ANNEE INTERNATIONALE DE LA FEMME

"Comment comptez-vous participer à l'Année internationale de la femme?"

C'est Mary Gusella, directrice du Secrétariat, qui pose la question.

Participer à la . . . comment dites-vous? A l'Année internationale de la femme, répète Mary, à cette année 1975 proclamée par les Nations Unies afin de promouvoir l'amélioration de la situation de la femme et d'éveiller l'intérêt de toute la société pour la cause qu'elle défend.

Le Secrétariat de l'AIF a beaucoup de cordes à son arc. Il ne propose rien de moins que:

- le lancement d'une campagne publicitaire nationale destinée à informer;
- l'organisation de colloques régionaux et de conférences nationales appuyant la cause féministe;
- la suppression des obstacles à l'égalité qui demeurent consignés dans les lois et règlements officiels;
- Le financement de manifestations organisées dans le cadre de l'Année internationale de la femme;
- la mise en oeuvre par les ministères et organisismes gouvernementeaux de programmes spéciaux qui aussurent aux femmes l'égalité des chances en matière d'emploi;
- l'organisation au Canada d'un colloque international patronné par les Nations Unies et mandaté pour mettre au point des mécanismes gouvernementaux susceptibles d'améliorer la situation de la femme.

On peut obtenir des precisions au sujet du programme du Canada et tout autre renseignment en s'adressant au Secretariat de l'Anee internationale de la femme. Tout les suggestions, observations, questions et idees sont les bienvenues. Il vous suffit de les addresser a:

Mme Mary Gusella
Directrice du Secretariat de
l'Annee internationale de la femme
Bureau du Conseil prive
Ottawa, Ontario K1A 0A3

Vous aussi pouvez contribuer a favoriser l'egalite pendant l'Annee internationale de la femme?

REFRESHER COURSE

The University of Manitoba School of Dental Hygiene is planning to conduct a two week refresher course in June 1975. The program is designed for hygienists who have been out of practice for some time and who wish to update their knowledge and skills. The program will include radiology, clinical dental hygiene, and preventive dentistry, but will not include restorative skills. Tuition will be $100.00.

The program will be given only if there is a minimum of five participants, and interested hygienists are therefore asked to contact the School of Dental Hygiene, University of Manitoba, 780 Bannatyne Avenue, Winnipeg, Manitoba, R3E 0W3, prior to March 31, 1975.

MALPRACTICE INSURANCE FOR DENTAL AUXILIARIES

A new broad form of malpractice insurance for dental auxiliaries was developed in 1974 and coverage was automatically extended to all employees of a dentist insured under the Canadian Dental Association Plan including dental hygienists, registered dental nurses/assistants and therapists. However, for those auxiliaries who may be working for a dentist or dentists who do not participate in the program, or who are employed in the dental public health field and not, technically, under the direct control and supervision of a dentist, an individual malpractice policy is recommended. The cost of such a policy is $12.00 per year and coverage may be obtained by sending your name and address along with a cheque to:

Canadian Dental Service Plans, Inc.
230 St. George Street
Toronto, Ontario M5R 2N5

SYMPOSIUM REGISTRATION DEADLINE JANUARY 31

The registration deadline for the 5th International Symposium on Dental Hygiene is January 31st, 1975. The Symposium, which is sub-titled "The Roles Played by Dental Hygienists in Each Country in the World and their Future Changes and Development", will be held July 20 to 22, 1975, in Tokyo, Japan. Applications for registration may be obtained from:

Mrs. Sharon Pitchford, Secretary
Canadian Dental Hygienists' Association
Box 1067
Uxbridge, Ontario, Canada

CFDE NEWS

The Canadian Fund for Dental Education reports that early results from its October campaign are most encouraging. "As of October 31, contributions totaled $23,000 and more gifts are coming in every day," according to Murray McDonald, the Fund's Executive Director.

"It is especially gratifying to note the increased size of contributions as well as the number of new supporters. If the trend continues for the rest of the year, CFDE will certainly surpass its objective of $35,000 in donations from the profession," said Mr. McDonald.

FROM THE DESK OF THE EDITOR . . .

I would like to take this opportunity to remind the members of our Association about the earlier request they received for donations to the Canadian Fund for Dental Education Campaign. Because of the confidential handling of the campaign, this reminder goes out needlessly to the members who have already contributed. However, if you allowed your blank cheque and envelope to get covered up by the considerable flow of Christmas mail and have not yet acted on the CFDE campaign but intend to do so, this memorandum may remind you to send your cotribution today. Make your cheque payable to the Canadian Fund for Dental Education (Dental Hygiene) and send it to 234 St. George Street, Toronto, Ontario M5R 2P2. The CFDE is a registered and approved charitable organization and will issue receipts for income tax purposes for all donations paid in each calendar year.

WINTER 1974 HIVER VOLUME 8, No. 4

THE CANADIAN DENTAL HYGIENIST

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AMERICAN ASSOCIATION OF DENTAL EDITORS
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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: $8 per year in Canada and $10 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

The permanent mailing address of the Canadian Dental Hygienists' Association is P.O. Box 8252, Ottawa, Ontario K1J 3H7

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous les trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient ête adressér aux membres du personnel respectifs.

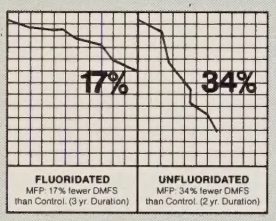
Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

L'adresse permanente de l'Association des hygiénistes dentaires du Canada est la suivant: P.O. Box 8252, Ottawa, Ontario K1J 3H7

Four good reasons to recommend Colgate with MFP.*

1. Colgate with MFP reduces new caries incidence.



Almost all fluoride dentifrices are made with stannous fluoride. Colgate is the only one made with monofluorophosphate. Colgate with MFP has been tested in clinical studies adding up to 19 years among 4,234 children in eight cities.

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In two of the three other studies against a leading fluoride dentifrice, Colgate with MFP resulted in a reduction of new caries of 11% and 34%, while in the third test, Colgate with MFP was found equally effective.

2. Colgate's advanced fluoride formula is different.

Of the leading fluoride toothpastes, only Colgate has MFP fluoride — a sodium monofluorophosphate formula that appears to convert tooth enamel apatite into fluoropatite, in a way similar to the topical application of fluoride. The effectiveness of Colgate with MFP in combating new caries may be due to the close chemical relationship of MFP and apatite.

3. Colgate with MFP helps keep teeth white.

It is widely recorded in the literature that certain fluorides in aqueous solution and in dentifrices cause brownish-blackish discolouration of teeth because the stannous anion can combine with many cations to form highly-coloured compounds.

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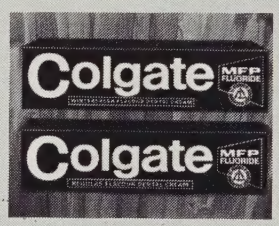

For decades, people all over the world have enjoyed the peppermint — spearmint flavour of Colgate Dental Cream, just as they now enjoy this same flavour in Colgate with MFP fluoride.

Realizing that not everybody's taste is the same, Colgate has also developed a refreshing Winterfresh flavour. Both flavours — Winterfresh and Regular — are recognized by the Canadian Dental Association. In consumer testing, the Winterfresh flavour has proven especially popular with children. And you know how important it is to get kids to brush regularly. Especially with a fluoride toothpaste like Colgate with MFP.

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Canadian Dental Association.

*T.M. Reg'd Colgate-Palmolive Limited

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CONVENTION 1975 – Sandra Till, #102, 249 Talbot, Winnipeg, Manitoba R2L 0P7
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MEMBERSHIP – Jo Gardner, 1125 West 54th, Vancouver, B.C. V6P 1N3
NOMINATIONS – Iris L. Gold, 887 McMillan Avenue, Winnipeg, Manitoba R3M 0T2
Chairmen for the Community Dental Health Committee and Editorial Committee are still to be named.

PRESIDENT'S REPORT 1973 – 1974

1. It has been a privilege for me to have been given the opportunity to serve as the eleventh president of the Canadian Dental Hygienists' Association. This privilege was enhanced by the responsible services of Sharon Pitchford as Secretary and Ailsa Wood as Treasurer. The experience of Past President, Marjorie Dimitri, and her willingness to be of assistance were invaluable. The desire of President-Elect, Iris Gold, to be well informed and familiar with the structure and function of CDHA is greatly appreciated. Beyond the Executive Council, my gratitude goes to Appointed Officers, Committee Chairpeople and members of the Board of Directors who have contributed so much of their time and talents to support our association.
2. On behalf of the Convention Committee of CDHA, I welcome you to Toronto, Ontario, to meetings designed, under the leadership of Jane Costigane, to educate and entertain the concerned dental hygienist. The theme of the eleventh annual convention, **"SPECTRUM '74: THE DIMENSIONS OF DENTAL HYGIENE"**, offers a look at various aspects of operating dental auxiliaries in a number of different provinces. The Central Toronto Dental Hygienists' Association have devoted the entire year to ensuring an edifying experience for us all.

Canadian Dental Association

3. **Conference on Dental Auxiliaries**
   Held in Banff, Alberta in January, 1974, CDHA was represented by Sherita Clark, President and Linda Zambolin, Public Relations Officer. Many other dental hygienists were in attendance representing the schools of dental hygiene. Reports of this conference were published in the Spring Journal. The CDHA President was privileged to be asked to contribute reactions to the conference for publication in the CDHA Journal (April 1974).
4. **Council on Health Care**
   Held in Toronto, Ontario in March, CDHA was represented by Marjorie Dimitri. A report was prepared and submitted to this meeting by Marjorie on behalf of CDHA. The results of the meeting were published in the CDHA News.
5. **Council on Education**
   Held in Toronto in April, CDHA was represented by Joan Voris, and a report was submitted on behalf of CDHA. The results were published in the CDHA News.
6. **Board of Governors Meeting and Convention**
   CDHA is invited to send official representatives to the Annual CDA Board of Governors Meeting. The President will attend all the sessions and the President-Elect will attend some.

7. **National Dental Health Week**
CDHA and CDNAA have been invited by CDA to meet with them in the Fall of 1974 to discuss possibilities for working together on National Dental Health Week. Each group has been asked to submit ideas on how they would like to participate. The Community Dental Health Committee is working on a presentation.

8. **Committee on Survey Policy**
CDHA was invited by CDA to submit a name for representation on this committee. The CDHA Board of Directors has approved the name of Mrs. Marnie Forgay. A meeting is being planned for the Fall of 1974.

9. **National Health Accrediting Agency**
CDA asked CDHA to express its opinion regarding the formation of this agency after studying the Report and Recommendations of the Working Group on Accreditation and the minutes of the Workshop on Accreditation. CDHA had responded to this during the previous term. The matter was referred to the Sub-Committee on Education for further consideration.

10. **Acknowledgements**
CDHA is grateful for the guidance and information that have been given by Miss Kay Kirker, Executive Secretary of CDA; Dr. William McIntosh, Executive Director of CDA; and Miss Pat Lundy, Public Relations Officer for CDA.

Canadian Fund For Dental Education

11. Contributions from dental hygienists were greatly reduced this year due to the late distribution of materials.

12. CDHA, through the Sub-Committee on Education, has submitted three proposals to the Board of Trustees of CFDE for their consideration. These proposals include requests for a Dental Hygiene Educators Workshop on Teaching Clinical Techniques, a Workshop for Dental Hygiene Education Advisors and a Dental Hygiene Student Table Clinic Program.

13. CFDE has secured CDHA Board approval to discontinue dental hygiene scholarships in favour of dental hygiene teacher training grants. CFDE will henceforth give priority to the support of teacher training grants for all auxiliary groups in preference to scholarship awards. In 1973 CFDE awarded $5,500 in teacher training fellowships to dental hygienists and $4,000 in 1974.

National Dental Examining Board of Canada

14. It was brought to the attention of the Executive Council that there had been no correspondence with the NDEB after the meeting with Dr. Proctor in Vancouver during the Tenth Annual Session. Joan Voris, Sub-Committee on Education, wrote to the NDEB to re-establish communication.

Health and Welfare Canada

15. **Dental Hygiene Data Bank Committee**
Chaired by Mrs. Pat Johnson, this committee has worked in cooperation with Statistics Canada to develop a survey of dental hygienists in Canada. The final draft of the questionnaire is included with the annual report of this committee.

16. **National Dental Manpower Committee**
Marjorie Dimitri represented CDHA in November of 1973 at an exploratory meeting in Ottawa. CDHA ratified the proposed terms of reference by January 31, 1974. The Board of Directors appointed Miss Joan Conklin, Chairperson of Manpower and Utilization and Mrs. Pat Johnson, Dental Hygiene Data Bank Committee to represent CDHA. Upon the resignation of Miss Conklin, Mrs. Carol Kline was appointed as the new representative to this committee as well as Chairperson of Manpower and Utilization.

17. Mrs. Sharon French, Unit Head, Health Manpower Careers Development, Health Manpower Directorate, receives minutes of Executive Council meetings and other reports. Sharon has served as a consultant to the Search Committee regarding the establishment of permanent headquarters. Her guidance has been greatly appreciated.

Insurance

18. At the Tenth Annual Session, the Board of Directors appointed Roberta Atkins to investigate insurance plans to provide income protection, extended health care, life insurance, malpractice insurance, retirement savings and pension plans, and that consultation be continued with the Canadian Dental Service Plans Inc. in the development of such plans. This report will be presented at the annual session.

Communications

19. Journals and Newsletters were exchanged with the Canadian Dental Association, British Dental Hygienists' Association, American Dental Association and American Dental Hygienists' Association.

American Dental Hygienists' Association

20. CDHA was represented by Mrs. Sherita Clark at the 50th Annual Session in Houston, Texas, November, 1973.

21. **Fifth International Symposium on Dental Hygiene**
ADHA has invited CDHA to join them on a charter to the Symposium, July 20-22, 1975 in Tokyo, Japan. Further information is contained in the report of the International Liaison Committee, chaired by Mrs. Noni Janke.

Publications

22. CDHA publishes a Newsletter bi-monthly, under the direction of Marjorie Dimitri. A special section has been set aside for provincial news.

23. Publication of THE CANADIAN DENTAL HYGIENIST has been increased from two to four times a year. This fine journal is put together by Hans

Franzgrote, Editor and Marjorie Dimitri, Managing Editor. CDHA is grateful for the time and talent contributed by these individuals.

Canadian Dental Nurses and Assistants Association

24. CDHA and CDNAA have exchanged newsletters and journals throughout the year.
25. CDNAA was represented at the CDHA Tenth Annual Session by the President, Miss Elizabeth Purchase.
26. CDNAA has extended an invitation to CDHA to attend their annual session in 1974.
27. A one-day joint session of CDHA-CDNAA will occur during the 1974 Convention in Toronto.

Permanent Headquarters

28. Permanent headquarters were established in May, 1974 through Dunn's Secretarial Services in Ottawa. Minimal services are being employed at this time with the possibility of expanding and utilizing the service as part time Executive Secretary. The new mailing address for CDHA is:

P.O. Box 8252
Ottawa, Ontario
K1G 3H7

Visitations

29. As President, I was privileged to visit several provinces and attend conventions in Quebec, Ontario and Alberta. I regret that, due to the shortness of the term, I was unable to visit every province. In the future the CDHA will delegate more travel responsibility to the President-Elect so that a representative can be present at the annual meeting in each province.
30. I appreciate the hospitality that was extended to me by the provinces I visited and I am grateful to the Board of Directors for affording me this opportunity.

Conclusion

31. There is a deep and immediate concern in many provinces regarding the future of dental hygiene. Since the legislation of matters regarding health is a provincial one, there is little or no continuity from one province to the next. The appearance of new types of operating dental auxiliaries causes a situation since the present structure of the CDHA limits membership to graduates of schools of dental hygiene. We will need to consider very carefully our relevance as a professional association in relation to these changes. Well informed provincial delegates are essential to the formulation of a national policy that reflects the needs of most provinces. In the nine months that I have served as President, it has been difficult to keep abreast of the situation in each province. Certainly the need for better communication between the constituent associations and the national body is imperative for us all.

SHERITA K. CLARK,
PRESIDENT 1973-1974

EDITORIAL

PREVENTION IS PEOPLE IN ACTION

Good dental health is ultimately the responsibility of the individual but initially, the onus is on the dental profession. Dental disease and tooth loss are not to be accepted as facts of life. They are problems to be understood and controlled, and it is the responsibility of the members of the dental health team to show the public that, with a maximum of prevention and a minimum of treatment, good dental health can be maintained by patient participation.

The Canadian Dental Association has designated February 2 to 8, 1975 as Dental Health Week in Canada and all members of the dental profession are being encouraged to actively promote currently acceptable concepts of preventive dentistry. Preventive dentistry as differentiated from therapeutic dentistry implies dealing with the basic factors that contribute to the etiology rather than the effect of oral disease and applies to anything that interrupts the disease process. Included in the tools of primary prevention are awarness of the structure and function of the oral tissues, plaque control, nutritional counselling, all aspects of fluoride therapy, and the use of pit and fissure sealants, all of which should be personalized to meet the individual needs of the patient.

The success or failure of preventive dentistry is directly related to the attitude, motivation and behavioural responses of the public to the message of good dental health. Let us help them to realize that every toothache, every loose tooth and all false teeth are a tribute to bacterial organization and determination, and can be prevented. Only when the consumer is able to understand the destructive processes involved in peridontal disease and dental caries will he be able to effectively implement methods for the interception and control of the contributing factors.

In Canada there are about three times as many patients as can annually be treated by our present population of dentists and dental auxiliaries. Furthermore, Canadians are producing children faster than schools are producing dental manpower. Therefore, the only way to fight dental disease is through prevention. Since good dental health is ultimately the responsibility of the individual, let us start providing the necessary tools for primary prevention – let us become people in action to prevent dental disease.

M.J.D.

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ANNUAL CONVENTION

SPECTRUM '74: THE DIMENSIONS OF DENTAL HYGIENE

JANE COSTIGANE, CHAIRMAN,
1974 CONVENTION

The 11th Annual Session of the Canadian Dental Hygienists' Association, held in Toronto, Ontario, October 6th to 9th, was an outstanding success in every way with a record registration of 230 hygienists from across the country.

The theme of the convention, "Spectrum '74: The Dimensions of Dental Hygiene", was carried throughout the meeting with each scientific session adding more color to this spectrum.

An all day presentation given by Dr. Edmond Truelove, University of Washington, Seattle, covered the fast-growing concept of "Total Patient Assessment". Dr. Truelove revealed many simple diagnostic procedures that the dental team can use to safeguard the total health of the patient – a definite precursor to good dental health!

Another highlight of the three day meeting was a paper on the controversial Saskatchewan Dental Nurse, presented by Dr. Michael Lewis, Executive Director of the Saskatchewan Dental Plan. Although the project had only been underway some six to eight weeks when the presentation was given, Dr. Lewis was able to predict a very productive future for Canada's most unique dental personnel.

The future of the dental auxiliary was put into focus with a most informative panel discussion entitled, "Educating the Dental Auxiliary – What Comes Next?" Miss Dixie Scoles, University of Montreal, Dr. Marjorie Jackson, University of Toronto and Mrs. Marnie Forgay, University of Manitoba, all directors of dental hygiene programs, disclosed the most recent developments in education at their respective universities. The main concensus reached from the discussion was that dental hygiene in Canada must be flexible and constantly changing in order to survive.

Besides offering many outstanding scientific sessions, the convention provided ample opportunity to socialize and relax. An evening on the town, including dinner and a performance of "Brief Lives" at the Royal Alex, was thoroughly enjoyed by all as were the "Welcoming" and "Wine and Cheese" parties.

Next year the CDHA will be moving further east to St. John's, Newfoundland, where the Annual Session will be held in mid-August – plan to attend now!

CONVENTION HIGHLIGHTS

Linda Borgh is welcomed by Wendy Hostetler during registration.

Receiving line at President's Reception: Sherita Clark, Iris Gold, Ailsa Wood, Marjorie Dimitri, Jane Costigane, Carol Kline.

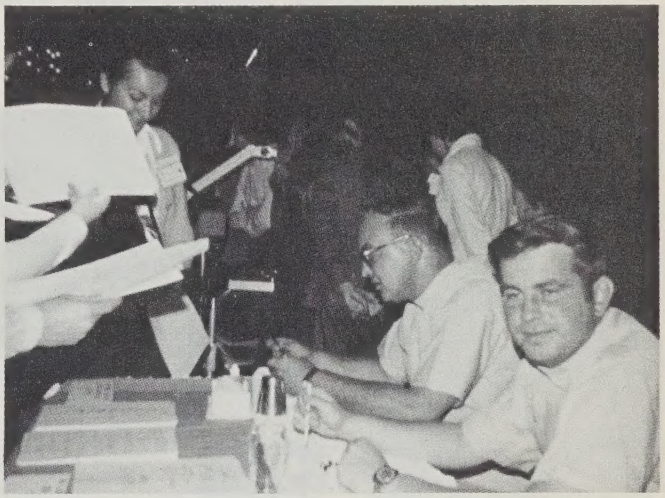
Edmond Truelove — "Total Patient Assessment: The Hygienist's Role".

Debbie Lang with guests Dr. and Mrs. Wes Dunn at Welcoming Reception.

Convention hostesses Linda Borgh, Judi Rogers and Debbie Lang.

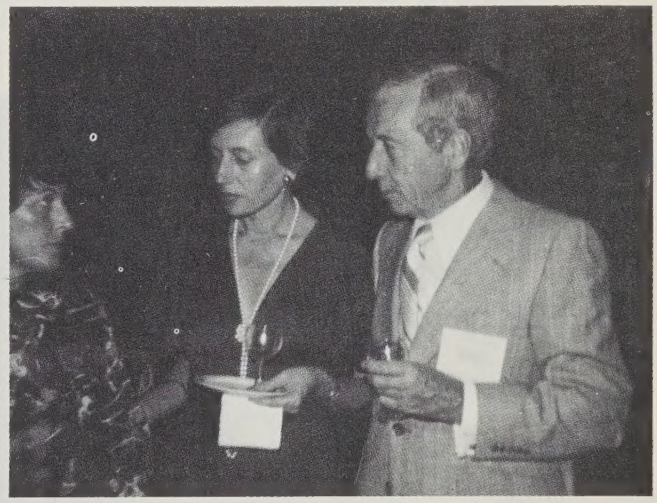
CDHA/CDNAA Joint Session: Convention Chairman Jane Costigane, CDNAA President Elizabeth Purchase, CDHA President Sherita Clark, Luncheon Speaker Diana Burns.

"Preventive Pot Pourri" Table Clinicians Lynn Jones and Debbie Lang.



Dental Therapists from Base Borden demonstrate restorative skills.

Sharon French — "Health Careers for Canadian Women".



Kate MacDonald, Dixie Scoles and Murray McDonald enjoy wine and cheese.

CDHA TRANSACTIONS 1974

BOARD OF DIRECTORS MEETING

Ailsa Wood, Treasurer; Jane Costigane, Acting Secretary; Sherita Clark, President; Iris Gold, President-elect; Linda Risdon, Alberta Delegate.

Roberta Adamson, Joan Lebreton, Noni Janke, Ontario Delegates; Raymonde Fontaine, P.E.I. Delegate; Diane Girardin, Manitoba Delegate; Mary Blake, New Brunswick Representative.

Peggy O'Brien, B.C. Delegate; Jo Gardner, Membership Chairman; Sylvie Frechette, Quebec Delegate; Joan Voris, B.C. Delegate and Education Chairman.

CDHA TRANSACTIONS 1974

The CDHA Board of Directors convened for the 11th Annual Meeting, October 10 and 11, 1974, in Toronto, Ontario. Members of the Board present were: Sherita Clark, President; Iris Gold, President-elect; Ailsa Wood, Treasurer; Marjorie Dimitri, Immediate Past President; Peggy O'Brien, Joan Voris, British Columbia Delegates; Linda Risdon, Alberta Delegate; Carol Worobey, Saskatchewan Delegate; Diane Girardin, Manitoba Delegate; Roberta Adamson, Joan Lebreton, Noni Janke, Ontario Delegates; Sylvie Frechette, Quebec Delegate; Anne Levy, Nova Scotia Delegate; Raymonde Fontaine, P.E.I. Delegate. Jane Costigane acted as Recording Secretary for the meeting in place of Sharon Pitchford, Secretary, who was unable to attend.

Also in attendance were: Jo Gardner, Chairman, Membership Committee; Carol Kline, Chairman, Manpower and Utilization Committee; Sharon Taylor, Chairman, Constitution Committee; Pat Johnson, Chairman, Dental Hygiene Data Bank Committee; Mary Blake, representative from the New Brunswick Dental Hygienists' Association. Special guest was Mrs. Brownrigg from Dunn's Secretarial Services.

The lengthy agenda was discussed and the following summary highlights some of the action taken during the meeting. The complete agenda book and the minutes are on file with members of the Board of Directors, Provincial Delegates, CDHA Committee Chairmen, and Presidents and Secretaries of the Constituent Associations.

Long Range Planning

The Board of Directors, cognizant of the need for review and revision of the structure and function of the Association, has directed the Long Range Planning Committee to study the workability of the Standing Rules and Policies as well as the terms of reference for officers and committees. Recommendations are to be submitted to the Constitution Committee for study and clarification prior to consideration by the Executive Council and Board of Directors at the next annual meeting.

The Long Range Planning Committee has also been directed to give consideration to a means of providing for membership of additional operating dental auxiliaries.

Permanent Headquarters

In May of 1974, the CDHA established permanent headquarters through Dunn's Secretarial Services in Ottawa. The CDHA Search Committee, under the chairmanship of Sherita Clark, has been further directed to work in cooperation with Mrs. Brownrigg of Dunn's to develop a working paper regarding the expansion in stages of the services provided.

Constitution and By-laws

The Constitution Committee has been directed to submit By-law changes that allow for the appointment of a non-voting person as Speaker at the Annual Meeting so that the President may enter into discussions without stepping down from the chair.

The Board of Directors approved the Constitution and By-laws of the New Brunswick Dental Hygienists' Association and the amendments to the Constitution and By-laws of the Nova Scotia, Alberta and British Columbia Dental Hygienists' Associations.

Several amendments to the CDHA By-laws were approved and will be circulated to the membership for insertion into the Constitution and By-laws.

Publications

The official publications of the CDHA, THE CANADIAN DENTAL HYGIENIST and CDHA NEWS, will be combined. Editor of the combined publication will be Marjorie Dimitri.

CDA Conference on Dental Auxiliaries

The CDHA Manpower and Utilization Committee, in cooperation with the Education Committee, has been directed to prepare for submission to the Canadian Dental Association, proposals for follow-up activities to the CDA Conference on Dental Auxiliaries with a view to establishing guidelines regarding the education, regulation and practice of dental auxiliaries in Canada.

Nominations

The Nomination Slate for 1974 - 75 was approved as follows:

Executive Council

President – Sherita Clark
President-elect – Iris Gold
First Vice-President – Jane Costigane
Secretary – Sharon Pitchford
Treasurer – Ailsa Wood
Immediate Past President – Marjorie Dimitri

Committee Chairmen

Constitution – Sharon Taylor
Education – Joan Voris
Long Range Planning – Marjorie Dimitri
Manpower and Utilization – Carol Kline
Membership – Jo Gardner
Nominations – Iris Gold
Convention 1975 – Sandra Till

Chairmen for the Community Dental Health and Editorial Committees are still to be named.

International Meetings

The Board of Directors will select a speaker to represent Canada at the 5th International Symposium on Dental Hygiene in Japan and the meeting of the International Liaison Committee.

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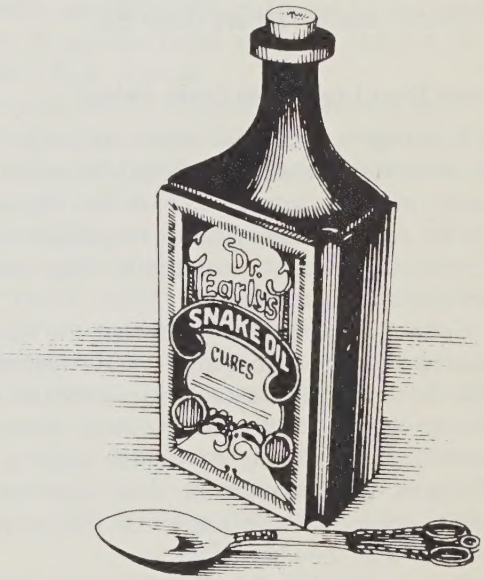

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"EDUCATING THE DENTAL AUXILIARY WHAT COMES NEXT?" — A Personal View

MARGERY G.E. FORGAY, R.D.H., B.A.

Mrs. Forgay is the Director of the School of Dental Hygiene, University of Manitoba.

It seems almost trite to say that this is a time of complex, varied, and far-reaching changes for dental auxiliaries and consequently for dental auxiliary education. A closer look at these changes indicates that there are several adjectives we could choose to describe them: exciting, because there are opportunities for involvement, commitment, and a feeling that what an individual may contribute at this point may really make a difference to the direction in which changes occur; traumatic, because there is a realization that many of the comfortable, satisfying aspects of the status quo may be upset, as well as those things we feel need changing, and traumatic also because, as human beings, we tend to resist change; puzzling, because the need for change may not be apparent to all of us — the dental hygienist happily employed in private practice, seeing every day the worth of her contribution to the health of the patients she serves, understandably may feel no necessity for change; inevitable — most of all, inevitable — because all of us, in favor or not, realize not only that changes will occur, but in fact are occurring.

Where Does Leadership Come From?

If change is not to be random, chaotic, or ill-considered, there must be some leadership found to direct it. But where, in 1974, are we to find this leadership? Can it devolve upon a single group or organization? And if it is to be a shared responsibility, how can this joint leadership be established?

Certainly it is easy to state that the Canadian Dental Association, the Canadian Dental Hygienists' Association, the Canadian Dental Nurses and Assistants Association at the national and provincial levels, faculties of dentistry and schools of dental hygiene, federal and provincial governments all have roles to play. If we examine some of the events of recent years, there is evidence that they have done so:

The report of the Federal Government Ad Hoc Committee on Dental Auxiliaries, (the Wells Committee report) a few years ago presented a thorough and competent review of Dental Auxiliaries in Canada, and included far-reaching and well-organized recommendations which were debated widely. It was an excellent example of the federal government providing leadership in this field.

On the provincial scene, we are aware of the very thorough manpower study done in Prince Edward Island and also of the developments in Saskatchewan in the establishment of a dental nurses training program and comprehensive dental care program for children.

The Canadian Dental Association in January 1974 conducted an exciting and stimulating conference on Dental Auxiliaries at Banff: a really unique event, both in its broad representation and in its free-wheeling discussions, aimed at discovering what might be the preferred pathways for change regarding dental auxiliaries.

The Canadian Dental Hygienists' Association, for all its youth and lack of size, is a vigorous, concerned association which has earned and is being accorded a high degree of respect.

All of these instances are very positive and encouraging. Why is it, then, that many of us have a vague feeling of unease, sometimes mounting to consternation?

One reason for this, I believe, is that we are aware of differences between expressed opinions about auxiliaries and the true feelings of organized and grass-roots dentistry. There are hidden reservations in seemingly open and frank statements, and much more ambivalence on this question than may appear officially.

If the Wells Report sparked some interest and debate in 1970, one seldom hears about it today. If the P.E.I. research revealed some viable answers to dental manpower dilemmas, why has there been real reluctance of provincial dental associations to benefit from this study? The ferment and excitement of the Banff conference seems entirely dissipated, its momentum lost. What appeared last January to be a true turning point may have just been fleeting diversion.

One of the aspects of leadership expected of schools of dental hygiene and faculties of dentistry is research in the field of dental auxiliary function and utilization. But if Canadian faculties of dentistry have a real commitment to this, it has not been very evident. In fact the very existence of schools of dental hygiene within dental faculties in some cases is being debated, and their status diminished. If schools of dental hygiene themselves feel this type of research is a necessary part of their roles, their participation has not been outstanding.

On the question of shared leadership, there seems to be a general acquiesence that a cooperation in leadership would be the ideal, but effective mechanisms to facilitate this are few, and it is unlikely to happen by chance.

The statement that those of us in the dental health field must act to meet more adequately the dental health needs of the community as the commmunity sees it, or have this initiative seized by the community as represented by government has been made so often that it is commonplace. Yet our ambivalence, or apathy, or inertia, or impotence, or all of these have kept us from acting in proportion to the urgency of the situation.

Dilemmas in Dental Auxiliary Education

As a dental auxiliary educator, I am aware of certain frustrations inherent in the situation at this time. Let me enumerate some of them.

More than two decades ago, the basic dental hygiene program was extended to two years because it was felt that it was logical for hygienists to assume greater responsibilities. Dental associations, by and large, have not devolved these responsibilities upon dental hygienists, and schools of dental hygiene have very naturally been reluctant to teach hygienists to perform illegal procedures. The result has been a common complaint that hygienists are "over-educated". At the same time, however, these "over-qualified" hygienists are not permitted to work in the absence of a dentist, even on written prescription.

As an educator, I also find myself in a dilemma about the ethics of teaching students ideal performance when I hear reports of how little of what they learn they may be allowed to utilize. The plain truth is hygienists *are* over-educated – not for that they are capable to do if legislation is changed, or what they can do under existing law if they are utilized effectively, but for what many employers want them to do.

And if the two year diploma hygienist is over-educated for her function, what on earth are we doing getting into three year programs. The rationale for this completely escapes me.

There is another dilemma for dental auxiliary educators concerning their responsibilities for research and innovation. It would be very nice to think that dental auxiliary education can be a great influence in effecting desirable changes by research and curriculum design. In fact, of course, this is not so (although the converse may be true, and change may be delayed by rigid and inflexible curricula). It would be unethical and ill-advised to attempt curriculum changes out of step with legally recognized roles, and there are problems even with teaching legally-recognized skills if dentists don't widely accept them. "Research" therefore tends to be in areas already reasonably established. The recent Manitoba research project in restorative techniques, although also looking at some other facets of the situation, was a pretty good example of re-inventing the P.E.I. wheel. While this may be necessary to overcome reluctance of provincial bodies to change, it is also somewhat wasteful. Truly innovative research in dental hygiene schools is regarded with suspicion and mistrust by most dental associations and by many members of dental faculties.

Dental auxiliary educators are also painfully aware that many dentists are illegally utilizing unqualified personnel in their offices with impunity. This is a problem that vexes qualified auxiliaries and their associations even more than educators. It would be comforting to believe that the answer is a better informed public, but this may not be so. In a questionnaire assessing patient reaction to hygienists performing restorative services, we found that the patients' perception of the quality of work done was not at all correlated with the patients' knowledge of the hygienists' training.

The changing role of dental assistants also has implications for dental hygiene education. How should the dental hygiene curriculum reflect these changes? One way, I feel, is to provide special opportunities for experienced, able, motivated dental assistants to enter the field of dental hygiene – in other words, establish a career ladder.

A Career Ladder

There is a misconception concerning the term career ladder that I'd like to discuss for a moment. A career ladder implies the opportunity for vertical mobility which takes into account the experience, knowledge and skills of the individual and permits them to proceed in a new or "higher" area without being required to repeat training in competencies they already possess. In this manner, for example, dental hygienists in some universities may enter the dental curriculum and complete it in three years. It does not imply that the individual is exempt from obtaining any essential competency. Nor does it mean that this is the only avenue of training for the higher qualified individuals. This would be not merely unnecessary, but wasteful. If this concept were applied to dental field, for example, it would mean that every dentist would first have to be a dental assistant, then a dental hygienist and only then be allowed to enter dental school.

Yet this misconception concerning the career ladder is, I very much fear, gaining some credence in dental circles in Canada, providing it is restricted to the dental auxiliary field. It was discussed at Banff, and has since appeared in the C.D.A. Journal.

The model proposed to accomplish this, moreover, is the antithesis of a true career ladder, providing not an orderly hierarchical arrangement of responsibilities based on education and skills, but instead an amorphous cluster of mini-skills and mini-courses which would preclude a sound general or science-oriented educational base. Such a model would, if adopted, eliminate the educated auxiliary competent to make judgements and decisions concerning preventive needs of individual patients and in public health settings. I am greatly disturbed by some generally favourable comments on the "cluster" model, and sincerely hope that organized dental assisting and dental hygiene can perceive its perils. Whatever is "next" in dental auxiliary education, I hope it isn't this!

But whatever general models are adopted, it is clear that a wide variety of programs, locations, and curricula are emerging in the dental auxiliary field in Canada. They are emerging, moreover, without the existence of a training program for English-speaking dental auxiliary educators, which is somewhat frightening. In this regard we must both congratulate the University of Montreal in its prompt action in preparing French speaking educators and regret that dental hygiene programs with longer histories have not acted upon this need.

Dental auxiliary programs themselves really provide

the only legal protection that the public has concerning the competence of intra-oral dental auxiliaries. (I exclude the illegally practicing auxiliaries from these comments. Under present arrangements, I see no effective protection from them available to the public). Graduates of accredited dental hygiene programs in Canada, for example, may register to practice in eight provinces without further examination. And in the two provinces where examinations are necessary, they are really an inconvenience for graduates of accredited programs rather than a quality control procedure. This implies a great responsibility for the schools themselves and for the agency which accredits them, the Council on Education of the Canadian Dental Association. The importance of this responsibility, I am happy to say, both schools and Council have fully perceived in the past. But accreditation is sought voluntarily by schools, and in some jurisdictions it may no longer be regarded as essential. The accrediting process and associated problems are also becoming more complex. When the few existing programs were two year diploma dental hygiene programs within faculties of dentistry, accreditation was not such a difficult task. Now, however, there are two year programs, three year programs, degree programs, diploma programs, certificate programs in dental assisting, expanded duty programs in dental assisting and dental hygiene, community college programs, university programs. Accreditation is growing more difficult at a time when it should play a greater role in the quality control of practising auxiliaries.

What Lies Ahead?

The comments I've made have excluded the prospect of really revolutionary changes in the dental auxiliary field. However, these may be upon us before we know it. In Saskatchewan such changes are faits accomplis. The likelihood, not just the possibility, but the likelihood of the other provinces creating changes on the dental auxiliary scene of similar magnitude must be acknowledged. What should the reaction of dental auxiliaries be? Many hygienists are torn on this issue. They realize the vulnerability of their position. They are loathe to dissociate themselves from the dental profession on these issues, but feel they are being caught in a squeeze play: their own position is being eroded, sometimes by the group from whom they should expect the most support, and they are sorely tempted to identify with other interests because of this. And most important, we have to keep asking ourselves how we are to keep concern for the public weal paramount in such perplexing times.

In spite of the comments I have just made, it would be unfair if I leave you with the feeling that I despair over the present scene. There is much to give us cheer: there is a greater degree of flexibility, openness, and awareness in organized and grass roots dentistry in Canada than, for example, in the United States. This includes a consideration for, and in some cases recognition of, the role and status dental auxiliaries ought to have, even if they don't. Dental hygiene in Canada has reached a considerable maturity in its brief life, largely due to dedication of a core of able C.D.H.A. members. Some governments express a willingness to work in partnership with dental professionals in development of solutions to the dental health problems of the community. Generally speaking, government, dentistry, and dental auxiliaries have fewer entrenched positions from which they feel they can not budge.

However, the vague unease to which I referred earlier persists. It is quite possible that we will simply be overtaken by events. Joan Conklin, in her excellent keynote address at the Banff Conference, hoped that we might, in our deliberations there, reach a consensus on the "desired preferables" for the future of dental auxiliaries in Canada. We didn't then, and we still haven't. If we don't manage to do it soon, either because we are unconvinced of the necessity to do so, or unwilling to reach concensus, or unable to respond, we will lose an irretrievable opportunity.

(This paper was presented during a panel discussion at the Annual CDHA Convention, October 1974).

PANEL DISCUSSION: "Educating the Dental Hygienist — What Comes Next?"

Dixie Scoles, University of Montreal; Marjorie Jackson, University of Toronto; Marnie Forgay, University of Manitoba.

HEALTH CAREERS FOR CANADIAN WOMEN

SHARON B. FRENCH, R.D.H., M.S.

Mrs. French is the Unit Head, Health Manpower Careers Department, Health Manpower Directorate, Department of National Health and Welfare, Ottawa.

Canadian Women in The Labour Force

Women account for approximately one-third of the labour force in Canada. A recent report of the Economic Council of Canada states "the participation rates for women have been rising over the entire post-war period catching up with those in other industrialized countries. A multitude of economic and social factors are responsible for the acceleration including growing urbanization, declining birth rates and smaller families, changing work patterns of married women, and the growth of job opportunities in the expanding service sector of the economy. The participation rates for women under 35 have experienced particularly sharp increases since the beginning of the 1960's (coinciding with the beginning of the strong and pervasive declines in fertility rates) but the long-term growth trend was interrupted whenever there was a slowdown in job opportunities. The participation rate of women 35 and over has been climbing steeply since the early 1950's and there is no evidence that the growth was interrupted whenever the labour market tended to soften. In fact, rising employment tends to raise the rate of this group to a certain extent . . . "(1) What does this mean to women? In the words of the Office of Equal Opportunities for Women, Public Service of Canada, it means that "the life styles and work patterns of women are changing rapidly. The increasing number of women receiving higher education, the steadily falling birth rates in Canada, a greater desire on the part of married women to enter the working world are some of the factors which today have extended woman's freedom and enabled her to look to different life styles and wider career horizons for the future.(2)

Our patterns of employment are different to those of men but we as well are committed to long-term careers of employment outside the home. Therefore, why not consider long-term plans for your possibly long-term career? What will you be doing in 1984 and 1994? Will you still be in the same position and possibly complaining about a lack of complete satisfaction? Will you have private dreams of having some career which is really challenging to you? I do not want to entice all of you away from your present positions if you are satisfied. However, let us examine your present career and your plans for the future. If you follow the current trend, you are going to be employed over a span of many years. A 20 or 30 year career is not uncommon for professional women in North America, be they in the health field or elsewhere.(3),(4),(5)

Health Careers and Canadian Women

In 1972, Miss Sylva Gelber, Director of the Women's Bureau, Labour Canada, presented a speech entitled "Sex Ghettos in the Health Professions" in which she pointed out that most of the occupational groups in the health field are sex-typed.(6) How many women physicians or women dentists do you know? How many male nurses or male dental hygienists or male assistants do you know? In January of 1974, there were a total of 8,325 dentists licensed to practice in Canada. How many Canadian dentists do you think were women – a mere 294 or 3.5%.(7) It is significant that women, who make up the majority of the health labour force in Canada, are concentrated in the lower occupational groups.(8) Why not be a woman dentist? Have you yourself ever considered taking dentistry? Possibly you did at one time but likely not very seriously. In many countries of the world, it is quite common for women to become dentists and they sometimes constitute the majority in dentistry. These countries include Finland, the Soviet Union and Poland where more women than men are dentists. Other countries such as France, Sweden and Norway have sizable percentages of women. Why then have Canadian women along with their American counterparts, not been attracted to dentistry in great numbers?

One factor in this low attraction of women into dentistry in North America is little or no promotion. Who or what agencies in Canada are actively promoting women to become dentists? Do the Canadian Dental Association and the provincial dental associations have brochures, films, fact sheets for career day speakers and other promotional material to encourage bright young Canadian women to become dentists? What is the stand of professional dental associations in Canada on women dentists? Do you know? In Canada, do we have promotional material with illustrations and examples of currently practising Canadian women dentists shown to be successfully combining the dual roles of wife/mother and active dentist? If almost all the role models that young women see are male dentists, then surely we need to provide some female identification with this profession if we are going to consider it a viable career. The following recommendations are quoted from an editorial in THE ONTARIO DENTIST; ". . . Some of the girls graduating from secondary school with high academic standing will be applying for admission to previously male dominated courses such as medicine, law, engineering and dentistry. If dentistry is to attract a reasonable share of these bright young students, we must take steps to promote our profession as a career for women. Perhaps we should start by attemping to change the

image of dentistry through our public relations program so the public becomes more aware of our true role in the health sciences. We could also communicate with the guidance departments of our secondary schools, so they will be aware of the opportunities available to their female students in our profession."(9) It was noted that in 1972-73, only 38 or 7.6 per cent of the total number of dental students at the University of Toronto were women.(10) However, the 1974 entering class has double the number of women students over 1973.

How many brochures and films have you seen promoting dentistry with only male photographs and little or no reference to women? In contrast, we can all list dozens of brochures and promotional films and material encouraging bright young Canadian women to become dental assistants and hygienists. It is no wonder then that many of our women dentists in Canada have had a European background. They developed their identification as women dentists from countries and cultures outside Canada and persisted in their pursuit of dentistry as a career even in the face of discouragement.(11)

Is it the best use of our womanpower that we channel almost all of our women interested in the field of dentistry into the auxiliary professions? For many persons, male as well as female, it is the most suitable career choice. However, some women who may have chosen dental hygiene or assisting as a short-term career, may not be completely satisfied with their long-term role and may possibly leave the dental field altogether for a more challenging career elsewhere which is a serious loss of experienced manpower to dentistry. In a manpower study of nurses in the United States, the researcher found that nurses with baccalaureate degrees left nursing for other occupations more frequently than nurses with diplomas as their higher education afforded them greater opportunity to change careers.(12) It is felt that women, particularly women in "female" occupations, tend to make the wrong career choices for themselves initially more than men do. Perhaps this dilemma results because we have been so self-depreciating, so short-sighted. The young women of today as well as the men are less inclined to this particular human frailty and therefore with more encouragement and direction, will participate more fully in dentistry than we have.

Changing Character of Dental Hygiene

Sylva Gelber, Director of the Women's Bureau, Labour Canada, would probably label dental hygiene and dental assisting as female ghettos because it has been only within the past five years that any men have been enrolled in dental auxiliary programs in Canada outside of the Canadian Armed Forces. It was made abundantly clear to any courageous males approaching dental hygiene teaching instutitions in the past that dental hygiene was really a female occupation – even the recruitment brochures said so. One had only to go by the clinic to see all the students in their fresh white caps and uniforms. Our French-speaking colleagues, however, have some most thought-provoking and refreshing perspectives on our profession as we have been accustomed to it in the past. At the University of Montreal, "de-sexing" of the profession by dress, by attitude and by inclusion of men is emerging as a reality.

In 1972, 23 of the 929 Canadian applicants to Canada's six dental hygiene schools were males. Two of these were accepted and enrolled. In 1973, 37 of the 955 applicants were males, 6 of whom were accepted and enrolled. Interestingly enough, there is no breakdown on male and female applicants to dental school.(10),(13)

Brochures, pamphlets, and university calendar descriptions are now starting to reflect the fact that dental hygiene is a good career for both men and women and because of the human rights policies of today, to do otherwise would be discrimination against men. We have only to look at the Canadian Armed Forces equivalent dental assistants, hygienists and therapists to see that these occupations can be and are being in fact, a man's occupation. Mr. Hans Franzgote, a public health dental hygienist in Eastern Ontario and formerly editor of the Canadian Dental Hygienists' Association journal, is one fine example of the contribution men can make to civilian dental hygiene in Canada.

The 1972 Department of Manpower and Immigration publication *Entry Requirements for Dental Hygienists* lists Nova Scotia and P.E.I. as provinces where only women can be licensed.(14) This is most definitely a case of discrimination against both men and women. In Nova Scotia, however, the human rights act overrules this restriction. It is self-evident in the labour force generally that "female only" occupations are essentially low paid with low status. Professions which move from being male dominated towards female dominated become worried because they fear that their bargaining power for salaries and incomes as well as prestige and status may suffer. Ideally, to be fair to both men and women, a balance of the sexes in each occupational group is desirable. Of course, to encourage men into female dominated professions, one would have to offer good salaries. How many men would be willing to accept the salaries that some dental assistants earn today? Dental hygienists have been lucky up to now to have relatively good salaries in relation to their educational preparation; however, how long will this benefit last? As the supply for dental hygienists starts to come near to meeting the demand, the high salaries offered in private practice to attract and to keep dental hygienists may fall or more precisely, may not rise as quickly. What are your professional associations – the Canadian Dental Hygienists' Association, the Canadian Dental Nurses and Assistants Association and their provincial counterparts – doing to ensure equitable and assured salaries and fringe benefits? Are you asking your associations to promote employment practices which stimulate long-term commitment to your professions and to establish career structures for both dental hygienists and assistants? Only a small minority of dental auxiliaries are employed by institutions and provincial departments of health thereby benefiting from established and continu-

ing collective bargaining agreements. Do you have a universal career structure so that one could progress through the ranks and which would facilitate geographic mobility? Are you contributing to a pension plan? Can you obtain maternity leave if necessary without losing your position? These and other matters should be faced seriously by any occupational group in Canada which even aspires to establish long-term commitment and thereby long-term careers for its members. An example of a group that has established conditions of employment is the Registered Nurses' Association of Ontario. Their *Standards of Employment for Registered Nurses, 1975* covers employment standards, salary standards, standards for nurses who are employed on a daily basis and receive no fringe benefits, and benefits to members.(15)

More Women in Dentistry

It was not intended to dwell on the gloom and doom of our current fate because the prospects of appropriate and satisfying health careers for Canadian women are improving. It is encouraging to note that there are more female dental students than in the past. There were a total of 148 women dental students enrolled in Canadian dental schools in 1972 - 73. This constituted 8.1% of total enrollment. Out of the ten dental schools, the three schools with the highest percentage of females were Saskatchewan with 18.2%, Laval with 16.1% and Montreal with 13.0%. The two schools with the lowest percentage of female dental students were McGill at 2.6% and British Columbia at 4%.(16) These figures are not very impressive but they do represent an improvement over ten years before when in 1961 - 62, only 3.6% of undergraduate enrollment in Canadian dental schools were women and they are much better than in the United States where in 1972 - 73, the percentage of women students enrolled in dental schools was only 2.9% which was lower than the rate Canada had achieved ten years before.(17) However, even in the United States, articles from the professional journals predict that tomorrow's dentists will be a different blend than today's with the number of women continuing to rise from its present rather insignificant level of approximately 2%.(17)

You are probably thinking right now – why talk to us about dentistry? We have already chosen our careers. There are two reasons. One is that you as a female member of the dental profession are probably viewed by young women in your community as a role model with respect to career selection. Therefore, you and your professional associations have the opportunity to influence career selection and to broaden the horizons of young women to include dentistry itself and not exclusively the auxiliary occupations. Do not limit the choice of careers of those women who seek your advice but rather encourage and promote high aspirations. The young women of today may still be thinking of a five year working life but will probably be surprised to find themselves putting 20 or 30 years into the labour force, albeit with interruptions to bear and raise children.

Dental Hygienist to Dentist? Why Not?

The second reason for speaking to you about dentistry is that it is not uncommon for a person to have two or more different careers over the span of a lifetime. If you are aged 25 now, you will likely have 20 or more years of employment outside the home as well as time off for family obligations. That is a considerable length of time to remain in a position in which you are not completely satisfied. In fact, if you are similar to some of the dental hygienists who reply to manpower surveys, you will not work in dental hygiene at all because you do not find it satisfying or challenging. Becoming a dentist is not the panacea or universal remedy to all our ailments; however, it does offer one pathway to a more diversified number of positions with greater opportunity for decision making and responsibility. Canada needs dentists who think like women and who think like dental hygienists and assistants. The challenge is there – it is up to you to seek it. Do not short-change yourself and your career with short-term goals.

Dr. Jeanne M. Starr, an American woman dentist, challenged dental hygienists to become dentists: "The University of California School of Dentistry, along with several other dental schools across our nation, is interested in the recruitment of young women who wish to become dentists. As a woman dentist who has found dentistry a challenging, gratifying and rewarding profession, and as an instructor of Operative Dentistry, my purpose in writing in the *Journal of the American Dental Hygiene Association* is to encourage any of you who are practising dental hygienists, and who may have seriously considered becoming dentists yourselves, to do so. You who know the daily involvements of dental practice, whose extensive knowledge and skills sometimes are under-utilized, are a valuable untapped source of dental womanpower. The present time is 'right' (propitious) for well-qualified young women to seek admission into the dental curriculum." In her view, "No one would be better qualified or more likely to succeed in dentistry than you . . . If the emphasis in dentistry is to be efficiently and expeditiously directed towards preventive rather than restorative care, who is better qualified to effect the shift in emphasis than women dentists who have been thoroughly and specifically educated in preventive care and techniques? Perhaps the time has arrived for dental hygienists to think very seriously of being 'expanded' into licensed dentists rather than one rung of the hierarchy of 'dentist-helpers' . . . It is a possibility which you should seriously consider."(18),(19) There is a great deal of food for thought and discussion in Dr. Starr's comments. Why not become a dentist and put some of your ideas of practice into practice?

Sources of funding for the high costs of dental education are sometimes difficult to secure and may deter some women from considering dentistry. Provincial and federal financing through bursary programs is available to some extent. The report entitled "What's Been Done?" is recommended as required reading for

every concerned woman in Canada. It is an assessment of the federal government's implementation of the recommendations of the Royal Commission on the Status of Women and was prepared by the Advisory Council on the Status of Women. On page fourteen of this document, there is the following statement regarding a prime source of funding of dental education for students in Canada: "Due to lack of facilities and unsuitability of the type of training available at the military colleges, women are now given equal consideration for subsidized training at civilian universities under the Regular Officers Training Program, the Medical Officers Training Program, the Dental Officers Training Program, the University Training Plan for Men and the University Training Plan for Officers. The opening of these plans to female applicants is viewed as a means of providing equality in terms of career development."(20)

Dental Hygienists in Canada

As of December 31, 1973, there were over 1,000 licensed dental hygienists in Canada making a national ratio of approximately one dental hygienist to every eight dentists which is a vast improvement over January 1968 six years before, when the ratio was one dental hygienist to every eighteen dentists.(13) According to the CDHA survey of June 1973, the typical dental hygienist in Canada resides in an urban area in Ontario or British Columbia (79%), is a married female (72%), is between 20 and 30 years of age (85%), has no children (61%), has a diploma in dental hygiene (93%), was educated at a Canadian school (93%), has no further academic education (69%), has attended one or more continuing education courses, conventions or conferences in the previous year (69%), is working full or part-time (76%), is working for a private dental practitioner exclusively (74%), and is a member of a provincial dental hygienists' association and the CDHA (72%).(21)

The fact that very few dental hygienists reside in the rural areas of Canada points to a likely maldistribution of dental hygiene manpower to population at the present time. The fact that most dental hygienists are between 20 and 30 years of age reminds us again that dental hygiene is a young profession in Canada. The fact that the average dental hygienist in the survey has no children is an indicator of the relative youth of the majority of the occupational group. The fact that he or she has not had time for further academic education again reflects youth, but also reflects the fact that little advanced education is available for any of the dental auxiliary groups in Canada. This lack is particularly important when we are increasing our number of preparatory programs and looking for dental hygiene and dental assisting educators. Programs to prepare educators are needed. The only teacher training program for dental hygiene educators is given in the French language at the University of Montreal. Quebec may have few practising dental hygienists at the present time (26 in 1974), but it does have a formal educational program to prepare educators and administrators for its diploma level dental hygiene programs in the community colleges.

Dental auxiliary education is an important source of career advancement for practising dental hygienists and assistants. It offers greater job security, opportunites for promotion and employment in a stimulating environment where one must always be searching for new knowledge and better ways of practising and teaching. In addition, an educational institution is one of the few places where the advanced academic qualifications of dental auxiliaries will be recognized and rewarded. The Canadian Fund for Dental Education is an improving source of funding for hygienists with aspirations of a teaching career. Up to the end of 1973, four fellowships with a value of $8,100 were awarded.(22)

Three-quarters of the hygienists who were employed were in private practice with one-quarter in public health, dental auxiliary education, hospital settings or research. There appears to be a slow but steady decrease in the estimated percentage of hygienists in public health employment, possibly due to the relative lack of expansion of public health programs utilizing dental hygienists per se in challenging and meaningful roles. However, the opportunities for career advancement in private practice are still less well defined than in public health. What formalized career structures, if any, are in existence aside from five-year progressive salary scales? The report of the Canadian Dental Association Conference on Dental Auxiliaries held in Banff, Alberta last January refers repeatedly to this deficiency and the need for a career structure or ladder with national portability.(23)

Dental Assistants in Canada

Dental assistant manpower in Canada could be realistically described as highly transient. For the assistant under twenty-five, the average stay in dental assisting is 1 and ½ years. After the first few years of high movement in and out of dental assisting, the older assistant appears to develop some stability in the work force and may make a career in the profession. Dental assistants suffer as an occupational group from a lack of formal training and qualification as a standard norm, although there are increasing numbers of dental assistants graduating from one year community college programs across the country. Only a small minority of assistants have achieved certification. The female character, the transient nature of the labour force, and the the lack of general standards of employment for assistants have all affected the present situation of frequently low salaries and a lack of fringe benefits such as a pension plan.

How many dental assistants do we have in Canada today? This seems to be a question which no one can answer with any degree of accuracy. In 1974, there were 8,325 dentists; therefore, if we use one rule of thumb suggested, we could estimate there would be three times the number of assistants giving approximately 24,000. The dental assistants are in fact the largest part of our total labour force in dentistry and therefore, deserve much more attention to such manpower problems as formalized training, certification, expansion of func-

tions, career opportunities to move into dental hygiene and other dental occupations, and high attrition rates in the early years. What a tremendous drain it must be on some practising dentists' time to continually be providing on-the-job training and what a senseless loss of productivity to the dental team. The Banff Conference on Dental Auxiliaries questioned the motivation of the individual dental assistant for career advancement stating that sometimes there were not enough dental assistants interested in teaching at the college level.(23) Lack of commitment and motivation are intertwined with all the other influences on the profession. With the development of provincial dental programs for children, there appears to be an expansion of the training of dental assistants and as in Saskatchewan, an expansion of duties into the areas previously regarded as those of the dental hygienist. British Columbia, Alberta, Saskatchewan and Manitoba all have formalized one year educational programs at the community college providing training in expanded functions.(24),(25) Greater utilization of the knowledge and skills of the dental assistant is now in existence in the Saskatchewan Dental Plan and could possibly be the case in the other provincial programs as they develop. Thus, improved training and utlization will be the trend for tomorrow.

In closing, . . . keep your horizons wide as you are "Looking at Tomorrow".

(Condensed from a paper presented at a joint session of the Canadian Dental Hygienists' Association and the Canadian Dental Nurses and Assistants Association at the 1974 Annual Convention, Toronto, Ontario.)

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Mrs. Carole Kline, Chairman
CDHA Manpower and Utilization Committee
1136 West 40th Avenue
Vancouver, B.C. V6M 1V2

MOVING?????

There are two things to be remembered if you are moving.

FIRST, and perhaps the most important is to inform us of your move. This is the ONLY sure way we have of keeping an up-to-date mailing list for the Journal, CDHA NEWS and other CDHA mailings.

SECOND, if you are moving from one province to another, please inform your provincial membership chairman prior to your move so that you may transfer your CDHA membership easily. She in turn will notify the membership chairman in the province to which you are moving.

If for some reason you are not sure of the membership chairman, you may send the request for transfer to the CDHA Membership Chairman, Mrs. Jo Gardner, 1125 West 54th Avenue, Vancouver 14, B.C., who will notify the appropriate committee members.

CDHA SELECTED TO EXECUTIVE POSITION ON NDMC

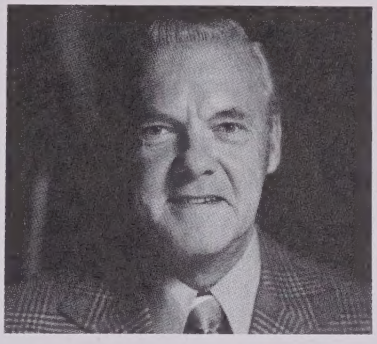
At the second meeting of the National Dental Manpower Committee, October 21, 1974, in Ottawa, the CDHA was asked to select one of its two representatives to serve on the Executive of the NDMC. This appointment, one of four executive positions, is a two year term commencing January, 1975.

The following summary highlights some of the other items discussed on the lengthy agenda:

1. Membership of the NDMC was increased with the addition of two representatives from the Association of Canadian Community Colleges (ACCC).
2. A bibliography on Health Manpower Studies in Canada is being prepared with input from all committee members.
3. A progress report on the Health Manpower Data Bank stated that all dental hygienists in Canada will be surveyed in April, 1975. This survey is being designed with the assistance of the NDMC and CDHA.
4. A study of the current and projected dental manpower supply including information on present Canadian graduates and projected graduates of educational programs is well under way.
5. Information regarding the immigration and emigration of dentists in Canada was presented.
6. The committee recommended that the report "Distribution of Dental Manpower in Underserviced Areas in Canada, A Survey by Province", be considered for publication as a Health Manpower Report and that a second survey be conducted to obtain information on the distribution of dental auxiliaries in underserviced areas.
7. Dr. D.D. Gelman, Director General, Health Standards and Consulting, reviewed the activities of the Health Programs Branch with respect to the subject of accreditation, health education programs and health service programs.
8. CDA's report "Accreditation of Canadian Educational Programs in Dentistry, Dental Hygiene and Dental Assisting" will be discussed at the next committee meeting.
9. Dr. A.M. Bryans reported on a research project being conducted at Queen's University entitled "An Appraisal of Teaching in Health Sciences in Canada". A dental consultant is participating in this project.
10. The committee decided that a research project dealing with future requirements for dental manpower in Canada including dentists, dental auxiliaries and technicians for both the child and adult population be initiated.

The next meeting of the NDMC will be held in late spring, 1975.

Carol Kline, Pat Johnson,
CDHA Representatives to NDMC



CDA PRESIDENT INSTALLED

Vancouver dentist, J. Fred Reid, was installed October 9th as President of the Canadian Dental Association, at the association's national convention in Toronto. As the 55th president, Dr. Reid will convene a special meeting of the Board of Governors to consider the implications of the Task Force Report on the Future of the Canadian Dental Association.

A graduate of McGill University, Dr. Reid has been in group practice in North Vancouver since 1951. He has been active in provincial and national dental affairs since his election as a director of the British Columbia Dental Association in 1962. Dr. Reid was appointed a governor of the CDA during his term of office as president of the BCDA and served as a member of the federal Ad Hoc Committee on Dental Auxiliaries (Wells Commission) in 1969-1971.

LE DOCTEUR J.F. REID ENTRE EN FONCTION

Le docteur J.F. Reid, de Vancouver, est entré en fonction, le 9 octobre, comme président de l'Association dentaire canadienne, au congrès national de l'Association qui vient d'avoir lieu à Toronto.

Le docteur Reid, qui devient le 55e présidente de l'Association, convoquera une assemblée spéciale du Conseil des Gouverneurs pour étudier les implications du rapport du Comité d'enquête sur l'avenir de l'Association dentaire canadienne.

MANITOBA GRADUATE HYGIENISTS RETURN TO UNIVERSITY TO TAKE EXPANDED FUNCTIONS

For the past three years, the School of Dental Hygiene, University of Manitoba, carried out an experimental program in training dental hygiene students to condense and carve restorations. This year 1974-75 the course, "Restorative Skills" for Dental Hygiene is part of the second year curriculum. Along with the twenty-four second year students, nine practising hygienists are registered to take the course in expanded functions. First term involves six hours weekly of lectures and laboratory procedures. The program continues clinically in second term until competency requirements are met. Laboratory and clinical procedures involve doing temporary restorations, all classes of anterior and posterior restorations, including pin restorations, on both deciduous and permanent dentitions.

Gladys Syrnyk

H. LINDSAY MUSSELLS PRESIDENT-ELECT

H. Lindsay Mussells, well-known Montreal dentist, is president-elect of the Canadian Dental Association. He won his election against Fred T. Wihak of Regina and will take up his gavel as president at the conclusion of the 1975 annual meeting in St. John's, Newfoundland. Dr. Mussells has been a member of the CDA Board of Governors since 1964.

LE DOCTEUR H. LINDSAY MUSSELLS EST ELU PRESIDENT DESIGNE

Le docteur H. Lindsay Mussells, dentiste bien connu de Montréal, a été élu président désigné de l'Association dentaire canadienne. Il a été préféré au docteur Fred T. Wihak, de Regina. Il occupera le poste de président à la fin du congrès annuel de 1975, qui aura lieu à St-Jean, Terre-Neuve. Le docteur Mussells était membre du Conseil des Gouverneurs depuis 1964.

TEACHER TRAINING FELLOWSHIPS

Deadline for applications for CFDE teacher training fellowships is April 1, 1975. Application forms can be obtained from the Canadian Fund for Dental Education, 234 St.George Street, Toronto, Ontario M5R 2P2.

CONSTITUENTS' NOTEBOOK

Manitoba

- Iris Gold has been named as the dental auxiliary representative on the Manitoba Dental Association Board for the 1975-76 term. She will be representing both the Dental Hygienists' Association and the Dental Nurses and Assistants Association of Manitoba.
- To keep hygienists aware of new concepts in dental hygiene, the University of Manitoba has started a study club for hygienists. This group meets once a month to review or learn new techniques in dental hygiene.
- The year 1975 will prove quite interesting as it is the 10th anniversary of Dental Hygiene in Manitoba. A "Homecoming" is being planned for the last weekend in May. If anyone is interested in receiving more information, please contact:

  School of Dental Hygiene
  University of Manitoba
  780 Bannatyne Avenue
  Winnipeg, Manitoba

  For those who graduated from Manitoba, this is the best opportunity to return and visit old friends as well as make new ones. Everyone is welcome.

Diane Girardin, Manitoba Delegate

British Columbia

- The BCDHA Mid-winter Clinic was held December 6th at the Hyatt Regency. The morning program centred around the theme of Health and Nutrition and featured four speakers in rotating mini-seminars. The speakers were Dr. Peter Hahn, "Late Effects of Early Nutrition"; Mr. John Oldham, "Pathology of Back Pain"; Mrs. Claudette Rice, "Speech Therapy and Dentistry"; and Mrs. Gail Blackwell, "Suggestive Therapy". A general meeting followed the luncheon. Later in the afternoon, dental assistants and hygienists participated in a forum discussing dental auxiliaries and their future in British Columbia.
- Laurie Whitney has been named as B.C.'s representative to the CDHA Manpower and Utilization Committee and Mary Bland has been named second delegate to the CDHA Board of Directors.

Peggy O'Brien, BCDHA President

EDITOR'S NOTE: Copy for publication in the Spring 1975 issue of THE CANADIAN DENTAL HYGIENIST should be submitted by January 31, 1975.

CANADA PENSION PLAN: PROPOSED AMENDMENTS

OTTAWA – Health and Welfare Minister Marc Lalonde today introduced a Bill in Parliament which would amend the Canada Pension Plan. This Bill has the same key features as Bill C-19 which Mr. Lalonde introduced in April of this year and which was being considered by Parliament just before its dissolution for the recent election.

Mr. Lalonde stated that the main purposes of the new Bill, as indicated in the Speech from the Throne, are to:

1. establish equal treatment for male and female contributors and beneficiaries under the Canada Pension Plan;
2. remove the retirement and earnings tests for retirement pensions;
3. establish a new formula for determining the Plan's earnings ceiling and thereby establish the base for rapid growth of future C.P.P. benefits;
4. change the basis of the Plan's exempt earnings provisions and thereby provide a greater opportunity for people at lower income levels to participate in the Plan;
5. allow members of certain religious groups to exclude themselves from the C.P.P., and
6. make a large number of technical changes to improve the Plan and, generally make it more effective.

The amendments that are designed to provide equal treatment for male and female participants in the Plan will pave the way for pensions to be paid to widowers on the same basis as they are now paid to widows. At the present time, widowers' pensions are only paid when the husband is disabled and has been financially dependent on his wife. On the other hand, widows' full pensions are payable to (1) those widows over 45 years old, or (2) under that age and at the same time disabled, or (3) have dependent children. Reduced pensions are paid to widows between 35 and 45 years of age who are not disabled or do not have dependent children.

Under the new Bill, the provisions that now apply to widows will apply to both widows and widowers alike. The equality amendments will also make it possible for children's benefits to be paid on the disability or death of female contributors on the same basis as they are now paid with respect to male contributors. At the present time, such benefits can be paid in the case of a female contributor only in situations where the children were substantially dependent on their mother before her disability or death.

AMENDMENTS PROPOSÉS AU RÉGIMES DE PENSIONS DU CANADA

OTTAWA – Le ministre de la Santé nationale et du Bien-être social, M. Marc Lalonde, a présenté aujourd'hui à la Chambre des communes un projet de loi amendant le Régime de pensions du Canada. Le projet comporte les mêmes caractéristiques que le bill C-19 qui a été déposé en avril dernier et étudié par le Parlement avant que celui-ci ne soit dissous en prévision des élections.

M. Lalonde a déclaré que les objectifs principaux du nouveau projet de loi, tels qu'énoncés dans le discours du trône, sont les suivants:

1. assurer un traitement égal aux hommes et aux femmes qui contribuent au Régime de pensions du Canada et qui en bénéficient;
2. supprimer les critères de retraite et d'examen des gains pour avoir droit aux prestations de retraite;
3. établir une nouvelle formule pour déterminer le maximum des gains sujets à cotisations en vertu du Régime et ainsi amorcer une augmentation rapide des prestations éventuelles du R.P.C.;
4. modifier la formule d'exemption de base du Régime et assurer ainsi l'occasion à un plus grand nombre de petits salariés d'adhérer au R.P.C.;
5. permettre l'exclusion facultative du R.P.C. des membres de certains groupes religieux; et
6. apporter au Régime plusieurs modifications techniques pour l'améliorer et, dans l'ensemble, le rendre plus efficace.

Les amendements dont le but est d'assurer en traitement égal aux cotisants et cotisantes du Régime, ouvriront la voie au versement d'une pension aux veufs selon des conditions identiques à celles qui sont prévues pour les veuves. Présentement, le veuf ne peut prétendre à une pension que s'il est invalide et à la charge de son épouse. Par contre, la veuve peut toucher une pension si elle est âgée de plus de 45 ans, ou encore si elle est âgée de moins de 45 ans et souffre d'invalidité ou à des enfants à charge. Une pension à taux réduit est consentie à la veuve âgée de 35 à 45 ans qui est ni invalide, ni chargée de famille.

Aux termes du nouveau projet de loi, les dispositions applicables à la veuve, vaudront autant pour le veuf. Les modifications visant l'égalité de traitement permettront de verser les prestations aux enfants à l'occasion de l'invalidité ou du décès de la cotisante, selon les mêmes modalités que celles prévues pour le cotisant. Selon la loi actuelle, ce genre de prestations ne peut être versé dans le cas d'une cotisante que lorsque les enfants sont véritablement à la charge de leur mère avant son invalidité ou son décès.

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DENTAL HEALTH WEEK IN CANADA

FEB. 2 – 8, 1975

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APR 15 1975

THE CANADIAN DENTAL HYGIENIST

L'HYGIENISTE DENTAIRE DU CANADA

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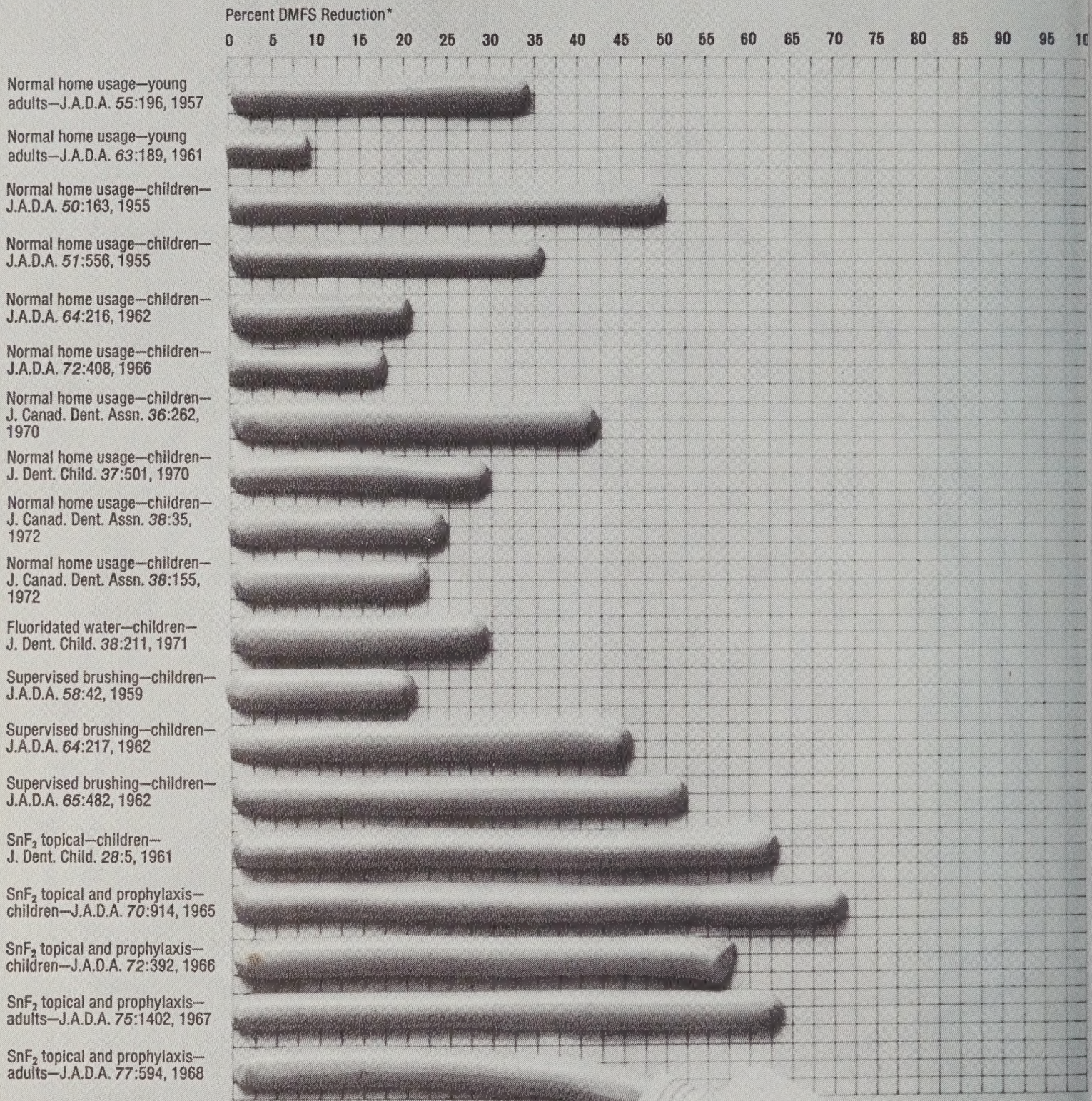

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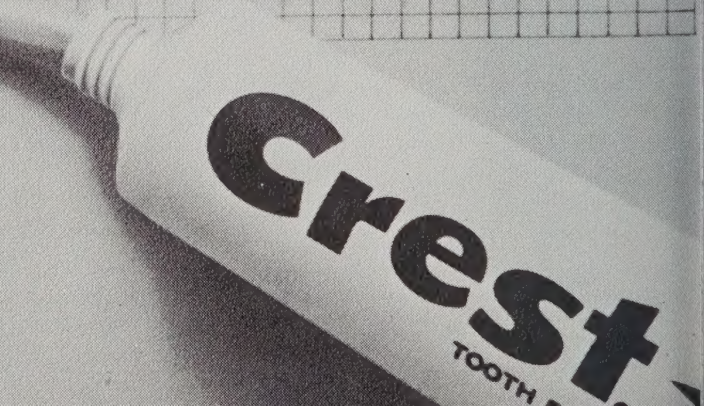

CDHA BULLETIN ACHD

ING 1975 PRINTEMPS VOLUME 9, No. 1

UNIVERSITY OF MANITOBA SCHOOL OF DENTAL HYGIENE CELEBRATES ITS TENTH ANNIVERSARY

May, 1975 will see the tenth class graduate from University of Manitoba's School of Dental Hygiene. To celebrate this anniversary a Homecoming is being planned for past and present students and staff. Homecoming will be May 30 and 31 and events include a wine and cheese party, luncheon, class re-unions, and a dinner-dance.

Anyone wishing more information should contact Sheryl Feller at the School.

HYGIENISTS' DUTIES EXPAND IN NEWFOUNDLAND

The Newfoundland government recently approved changes in the hygienists' section of the Dental Association's by-laws allowing an expansion of the duties of hygienists in the province. The new duties approved by the government include: making topical applications to the teeth of caries preventive medicaments; and completing the post tooth-cutting portion of plastic restorative procedures. The second function may be performed by hygienists with advanced training in this particular procedure.

CDA AD HOC COMMITTEE FORMED

An ad hoc committee named to review and recommend revisions to the CDA documents "Survey Policy and Accreditation of a Program in Dental Hygiene" and "Guidelines for the Education of Dental Hygienists" will report at the 1975 CDA Council on Education meeting to be held May 7th to 9th. This committee, under the chairmanship of Mrs. Joan Voris, CDHA Representative to the CDA Council on Education, is composed of: Mrs. Marjorie Dimitri, CDHA Representative to CDA Council on Health Care; Dr. W.H. Feasby, Chairman, CDA Council on Education; Mrs. Marnie Forgay, CDHA Representative to CDA Survey Policy Committee; and Dr. M.A. Rogers, CDA Accreditation Coordinator.

CDHA'S 12TH ANNUAL CONVENTION

CDHA's 12th Annual Convention will take place August 17th to 19th, 1975, in St. John's Newfoundland and will give us the opportunity to visit an enjoyable city! The annual sessions will be held at the Arts and Cultural Center at the Memorial University.

The theme this year is "Developments: Inward and Outward". This concept directs the hygienist to view herself "inward" as a person and as an individual in society; the "outward" direction will take her away from things at home, to the United States and hopefully to the developments in dental hygiene taking place throughout the world.

St. John's Newfoundland is a city with a reputation for friendliness, a relaxed atmosphere and fun! Bring your holiday mood and casual clothes and expect to have a great time.

Further information may be obtained from either of the convention co-chairpersons: Daphne Cringan, 233 Campbell Street, Winnipeg, Manitoba, R3N 1B4 or Dianne Dyer, 654 Henderson Highway, Winnipeg, Manitoba, R2K 2J5.

APRIL 1 IS THE DEADLINE FOR CFDE TEACHER/RESEARCHER TRAINING FELLOWSHIP APPLICATIONS

April 1, 1975 is the deadline for filing applications for dental teacher training fellowships awarded by the Canadian Fund for Dental Education. For application forms write to the Canadian Fund for Dental Education, 234 St. George Street, Toronto, Ontario M5R 2P2. Forms may also be obtained from the dean's office in any Canadian dental school.

Applicants must declare their firm intention to become a teacher/researcher in a Canadian faculty of dentistry or a school of dental hygiene.

Preference will be given to those applicants who will return to a full-time teaching/research position in a Canadian dental school or a school of dental hygiene. If accepted for a fellowship, each recipient must sign a statement that on completion of his or her studies he or she will teach for a minimum of two days per week for two years or one year of full-time service for each year of support.

Candidates must be Canadian citizens or possess landed immigrant status. They must also have completed an undergraduate course in dentistry or a program in science or an undergraduate course in dental hygiene and be eligible for admission to a graduate school.

Each fellowship is for one year of study at the graduate level. Fellowships may be renewed for an additional year if progress is satisfactory.

The value of the fellowship will vary depending upon the cost of the program of studies, marital status and other awards received by the applicant. It is hoped that a full fellowship will be adequate to cover tuition and to substantially assist in the provision of living costs. Full fellowships are awarded to applicants who will be employed on a full-time basis at an accredited Canadian institution conducting a program of undergraduate professional education in dentistry or dental hygiene. Partial fellowships are provided to applicants who will be employed on a half-time basis.

89 dentists and 5 dental hygienists have been awarded fellowships.

"Since the program started eleven years ago, the Fund has awarded 134 fellowships totalling $303,642 to 89 dentists to help them pursue teaching/research careers," according to Trustee James A. Guest, D.D.S. "Eight fellowships totalling $12,315 have also been awarded to help five dental hygienists prepare for teaching careers in Canadian schools," said Dr. Guest.

Fund's Advisory Committee reviews all fellowship applications.

All applications for teacher training fellowships are reviewed by CFDE's Advisory Committee on Fellowship Education, chaired by Dr. R.C. Burgess of the University of Toronto. Serving with Dr. Burgess on this committee are: Dr. G.E. Albert of the University of Montreal, Dr. H.J. MacConnachie of Dalhousie University and Dr. D.T. Zack of the University of British Columbia. Recommendations are made to the Fund's Board of Trustees and fellowship awards announced in May.

NATIONWIDE

1975 – INTERNATIONAL WOMEN'S YEAR

The United Nations has declared 1975 to be International Women's Year. It is a year to focus attention on improving the status of women, to promote awareness of the changing role of women in today's society. It is an occasion for recognition, encouragement, and hopefully, consciousness raising.

Would you like to receive free literature on the achievements and activities of women in Canada? If so, ask to be put on the mailing list for the free publications listed at the following addresses:

Newsletter/Bulletin – International Women's Year

- a one to ten page publication covering I.W.Y. activities including a special issue on funding.
- published approximately monthly for 1975.

International Women's Year Secretariat,
Privy Council Office,
Ottawa, Ontario K1A 0A3

Memo

- a one page publication giving up-to-date news about subjects of interest to women.

Interaction

- a six page publication issued four times each year giving regional and national news, both available from:

Office of Equal Opportunites for Women,
Public Service Commission,
Room 2210, Tower A,
Place de Ville,
Ottawa, Ontario K1A 6M7

Women at Work

- a four page publication issued every two months on women nationally and internationally and available from the:

Women's Bureau,
Canada Department of Labour,
340 Laurier Avenue West,
Ottawa, Ontario K1A 0J2

What are you and various voluntary associations you belong to doing to promote International Women's year? Do you have a project? Do you need funds? Write for the special issue of the Newsletter/Bulletin on funding from the I.W.Y. Secretariat.

Sharon B. French,
Health and Welfare Canada

ADA REPRESENTATIVE VISITS CANADA

CDHA's Chairman of the Committee on Education, Mrs. Joan Voris, had the opportunity to meet recently with Miss Margaret Ryan, Assistant Secretary of the American Dental Association's Council on Education. Several areas of interest and concern were discussed and included aptitude testing, national dental hygiene examinations and accreditation. In addition, the implications of the resolution passed at the May 1974 meeting of the ADA Council on Education were discussed. This resolution states that the Council on Education of the American Dental Association recognize and list dental hygiene programs accredited by the Canadian Dental Association when those programs meet minimum accreditation standards of the American Dental Association. At present, the ADA recognizes six of the seven CDA accredited programs of dental hygiene including the University of British Columbia, University of Alberta, University of Manitoba, University of Toronto, University of Montreal and Dalhousie University.

INCOME TAX INFORMATION

In order to clarify any questions regarding the deduction of convention expenses when computing income tax returns, the following is quoted from the **Interpretation Bulletin** IT - 131 from the Department of National Revenue, Taxation:

"EMPLOYEES"

5. Where an employer requires an employee to attend a convention as part of the duties of his employment and reimburses him for reasonable costs incurred in so doing, such reimbursement would not normally constitute income in the hands of the employee. On the other hand, if the employer gives an employee a non-accountable allowance to cover the cost of attendance at such a convention, the employee will, as a rule, be taxable on that allowance. Employees are not in any case entitled to deduct any of the costs of attending conventions in computing their income."

EDITOR'S NOTE: Editorial contributions from members and interested readers are welcomed. Copy for publication in the Summer 1975 issue should be submitted by April 30th.

ALBERTA DENTAL ASSOCIATION ISSUES DIRECTIVES REGARDING DENTAL AUXILIARIES

At a recent meeting of the Directors of the Alberta Dental Association, two matters with respect to dental auxiliaries were discussed and directives have been issued to members of the Alberta Dental Hygienists' Association and the Alberta Dental Assistants' Association. Firstly, it was agreed by the Board that the application of Nuva-seal or other pit and fissure sealants may be an irreversible procedure because of the tooth etching, and as such shall not be performed by dental auxiliaries. Neither the School of Dental Hygiene, nor N.A.I.T. or S.A.I.T., teach the application of pit and fissure sealants, and as such no auxiliary should be undertaking this procedure.

Secondly, dental auxiliaries who are legally permitted to provide intra-oral procedures must do so only under effective supervision. The definition of effective supervision as approved by the Canadian Dental Association and subsequently approved by the Board of Directors of the ADA by resolution on November 26th, reads as follows:

"RESOLVED, that the following definition of 'effective' supervision be approved by the Alberta Dental Association and published by means of a letter to the members:

Implicit in the intrepretation of the meaning of effective supervision by a dentist of the services of allied dental health personnel is the requirement on the dentist to assume ultimate responsibility for the nature, extent and quality of the dental care or service received by his patient.

1. The dentist will be responsible for delineating the scope of services the allied personnel will perform.
2. The dentist will be responsible for assuring that the allied personnel have the training, knowledge, ability and legal qualifications where applicable, effectively to perform the duties he has delegated, such duties being those not requiring the full knowledge and skill of the licensed dentist.
3. The dentist will be responsible for assuring himself that the duties assigned have been competently and correctly discharged.
4. The allied dental health worker who renders services directly for the patient will perform his or her duties at the direction of a supervising dentist.
5. The Alberta Dental Association requires the presence of a dentist when intra-oral procedures are performed by auxiliary personnel."

THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1975 PRINTEMPS

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All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: $8 per year in Canada and $10 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

The permanent mailing address of the Canadian Dental Hygienists' Association is P.O. Box 8252, Ottawa, Ontario K1J 3H7.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous trois mois.

Toutes communications ayant trait à la revue devraient être dressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être dresséŕ aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

L'adresse permanente de l'Association des hygiénistes dentaires du Canada est la suivant: P.O. Box 8252, Ottawa, Ontario K1J 3H7.

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AMERICAN ASSOCIATION OF DENTAL EDITORS
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*The ILWU-PMA Dental Program, Reports of Councils and Bureaus, J. Amer. Dent. Assoc. *58*:127, Feb. 1959.

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GUEST EDITORIAL

INTERNATIONAL WOMEN'S YEAR – 1975

International Women's Year has come as something of a surprise to a majority of women across the country. Reactions to Canadian Government sponsorship by both women and men is mixed: some accept enthusiastically the opportunity provided to examine changing life styles; many, on the other hand, feel resentment and hostility toward a programme which challenges the status quo; while yet others complain that such a year is redundant because women long ago won all the freedoms necessary. What prompted the Canadian Government to set aside five million dollars to celebrate 1975 as the Year of the Woman? To find the answer it is necessary to look far beyond the sometimes strident cries for female rights coming from modern women's liberation groups seeking greater opportunities for women. These more recent women's organizations have in the past decade served effectively to raise consciousness and to re-awaken interest in the women's movement. The Canadian Government has attempted some response to status of women's groups, but there is still much needed legislation to protect women in the work force as labourers, professional workers or wives.

The real impetus for I.W.Y., however, comes not so much from the Canadian Government as from those branches of the United Nations, which since the beginning of the San Francisco Charter in 1945 have been struggling to ensure that fundamental human rights and responsibilities be shared by all humanity. Since that initial Universal Declaration of Human Rights, the General Assembly has worked zealously drafting the separate parts of the Bill to cover civil, political, economic, social and cultural rights, and by the end of 1963 the general and substantive provisions of the Bill were passed. Despite the international instruments prohibiting discrimination on the grounds of sex, many women whether through national laws, traditions, or attitudes are denied the rights and freedoms declared in the first U.N. Charter. In 1946, the United Nations Commission on the Status of Women was formed to seek not only the legal recognition of the rights of women, but also changes in traditional attitudes. In 1945 and 1946 Canadian women began pressuring the government to establish a Women's Bureau. The Young Women's Christian Association and the National Council of Women made the first representations to the government. These groups were further supported by the National Federation of Business and Professional Women and the Canadian Federation of University Women. But it was not until 1954 that Marion Royce was appointed Director. Her efforts were devoted to the equal pay for equal work legislation which was passed in 1956. Canada was elected to the United Nations Commission on the Status of Women in 1958, but not until 1967 did the General Assembly adopt unanimously the Declaration on the Elimination of Discrimination against women. This valuable document is the final stage of the Universal Declaration of Human Rights begun in 1945. It elaborates the questions of equality and discrimination between men and women.

If the decades of the 1950's and 60's in the United Nations witnessed the passing of the major bills of Human Rights, the implementation of the objectives remains the work of this decade. The International Strategy is to raise the awareness of the human race by focussing attention on the major areas of stress. 1974 has been World Population Year, and it has been made abundantly clear to the least aware of us that something must be done. The interrelationship of International Women's Year, 1975, with World Population Year, 1974, and the Human Settlements Conference - Habitat, 1976 is obvious. Women are the central fact in social development and humanitarian affairs. As Helvi Sipila, Assistant Secretary-General for Social Development and Humanitarian Affairs in the United Nations, pointed out in a speech given in 1974:

> *". . . population statistics are the tip of the iceberg only. Women are, if you will, the submerged two-thirds. It is women who give birth to children . . . women are more than half of the world's population . . . We cannot hope to create the necessary conditions for growth while leaving aside half of the human resources required for that growth."*

Women in fact make up more than half the world's population; yet they are in most countries educationally disadvantaged and culturally deprived. Women constitute more than one-third of the world's gainfully employed labour force, and many women are themselves heads of families; yet in public life the percentage of women who hold policy-making posts – at the legislative, judicial, or executive levels – is negligible. The link between the progress of women and population questions becomes apparent. In a country like Canada where women can control the population growth, a policy of advancing the status of women must of necessity follow a reduced population. Out from the burden of bearing a number of children, women are much freer to seek careers. But changing the traditionally limited role of women as a wife and mother requires also a change in the role of men and in the traditional division of work between the sexes. The importance of a joint effort by both men and women cannot be

overstressed. If Canadian women have registered some dissatisfaction with the government's handling of I.W.Y. funding and advertising campaigns, it is largely because those in charge of the programme are men who have not learned to listen carefully enough to what women want.

Women for their part in 1975 must exercise equal care in articulating their hopes for their future roles in society. In the past, women have known only too well how to serve others. In seeking to free themselves from the stigma of being the second sex, women must not make the mistake of discarding what has been of value in past roles. The theme of I.W.Y. is Equality, Development, Peace. Only through service rather than acquisition can one be totally free – totally at peace. Perhaps then, true liberation comes not from acquiring greater status, income, power, and a larger share of consumer goods, but rather in seeking new values and goals. Women will find true liberty not in taking over ready-made masculine roles, but in shaking off the old bonds and searching for new and different goals. Perhaps the women's movement in this country in 1975 can be a catalyst toward the re-examination of the values and roles that all of us men and women play in society.

DR. E. MARGARET FULTON,
Dean of Women, University of British Columbia

CALL FOR NOMINATIONS – 1975

An invitation is extended to the entire General Membership of the Canadian Dental Hygienists' Association to propose nominations for officers. Officers are elected at the Annual Meeting of the Board of Directors.

It is optimal to have representation from all Constituent Associations on the Slate of Nominations. This is the opportunity for individual members to make nominations, or to indicate to the Chairperson of the Nominations Committee the individual's interest in active participation at the Executive level.

The Executive Council is composed of the following elective officers:

President
President-Elect
First Vice-President
Secretary
Treasurer
Immediate Past President (ex officio)

The President-Elect and First Vice-President succeed to office without further election at the annual session of the Board of Directors, following the expired term of the President and President-Elect, respectively.

The positions to be filled at the Annual Meeting, with a description of the duties of each, appear below. (Please see the Constitution of the Canadian Dental Hygienists' Association for full details.)

First Vice-President: It is the duty of the First Vice-President to serve as a member of the Board of Directors as approved in the By-laws of the C.D.H.A. Constitution; to fill the expired term of the President-elect in the event such a vacancy occurs; and to succeed to the office of President-elect at the next annual session of the Board of Directors following the expired term of the President-elect.

Secretary: It is the duty of the Secretary to keep the records and minutes; to act as Secretary at all sessions of the Association, Executive Council or Board of Directors; to co-ordinate the activities of all committees; to notify members of committees of their appointments and duties, and other customary duties such as preparing agendas, notifications for meetings, etc.

Treasurer: It is the duty of the Treasurer to act as custodian of all monies of the Association; to keep full and accurate accounts of all receipts and disbursements; to present the Treasurer's Report to the Board of Directors; to present a budget for the next fiscal year to the annual session of the Board; to keep an active and up-to-date list of all members of this Association; and to perform such other duties as may be designated.

If you wish to nominate a person for a particular position, please follow the suggestions:

1. Ask the individual if she/he is willing to run for office.
2. If the person responds positively, write to the Chairperson, Nominations Committee, giving the person's name, address, and other pertinent information. (Such information would be past offices at the Constituent level, committee involvement, year of graduation from what school, practice area, etc.)

Please note: **Eligibility**

"Only active or life members in good standing of this Association shall be eligible to stand for and serve as officers of this Association.

"Previous officers of this Association who are active or life members in good standing may be eligible to stand for and serve as officers of this Association." – Constitution and By-laws of the Canadian Dental Hygienists' Association. Chapter VI, Section 1.

Please send all Nominations to:
Iris L. Gold, Chairperson
Nominations Committee
887 McMillan Avenue
Winnipeg, Manitoba R3M 0T2

DEADLINE FOR NOMINATIONS – MAY 1, 1975

THE TRADITIONAL DENTAL HYGIENIST: A FACTUAL REVIEW

WILMA MOTLEY, R.D.H.

Mrs. Motley is the Editor of DENTAL HYGIENE, The Journal of the American Dental Hygienists' Association.

Introduction

A circle has no beginning, nor has it an ending. Dental hygiene had a beginning and now appears to have come "full circle." Are we going to let it end, or are we going to assure that it continues and that it more nearly reaches its potential the "second time around?"

Of necessity this presentation must be an overview of dental hygiene practice, not a comprehensive review. It is restricted to the traditional dental hygienist and does not include background qualifications or educational requirements of the profession.

All United Nations agencies have accepted the definition of an auxiliary worker as "a paid worker in that field, who assists and is supervised by a professional worker."(1) The World Health Organization (WHO), has defined (operating) dental auxiliaries as "persons, who, by virtue of formal training are certified as being able to perform a limited and defined range of intra-oral procedures."(2) Dental hygienists are operating auxiliaries, performing intra-oral functions, in contrast to dental auxiliaries who assist the dentist in other ways. Needs of countries with an established dental profession are not the same as where there are few or no dentists. The best types of auxiliaries are developed on national need, not on a general basis, and as a consequence different combinations of functions give rise to the various auxiliary titles.

Dental hygienists are a part of approximately 35,000 operating auxiliaries and can be identified in at least 22 countries. There is great variance in legal status, training, opportunities for employment and general acceptance by the dental profession in their countries.

Initial Creation of Position in Fact and Law: Responsibilities, Limitations

Irene Newman, second cousin of Dr. Alfred Civilion Fones, acting as his dental assistant, was the first person to be known as a dental hygienist, and when the profession was legally recognized she qualified for license number one. This honour came to her in Bridgeport, Connecticut, the first state of the United States and the first agency in the world to take this long-ranging planning action. These events did not mushroom overnight, nor did they, like Topsy, just "growed" in a haphazard manner.

Oral hygiene has been a universal concern since the beginning of time, being assigned varying degrees of importance according to changing customs and cultures and to advancements in scientific knowledge. The first American dental periodical was established in 1839, and as early as 1844 it contained an article on "Dental Hygiene." This editorial was directed to dentists, deploring the fact that so much attention was given to mechanical dentistry and surgery and that the "hygiene of the teeth (was) almost wholly neglected." It continued, "Certainly there is no part of the physical organism of which prevention of disease can be more successfully or effectually applied than to those organs (the teeth)."(3)

In this same year Meyer L. Rhein of New York City advocated that dentists should make pupils of their patients and teach them how to brush their teeth effectively. He also proposed that the Board of Education promote a program of oral hygiene for school children. A healthy mouth was important to Rhein and he was encouraged by the frequency with which the subject was being considered by dental societies. He believed all patients, not just a chosen few, should receive this instruction. Other dental pioneers of those years wrote similar articles, promoting and enlarging on the methods of prevention with special emphasis on the needs of children. It is safe to assume that there were many discussions, probably even arguments, on the need for prevention and the means of delivery of this health service.

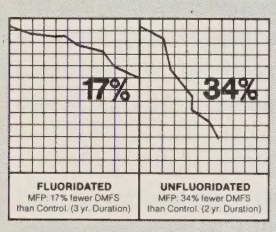
By 1894 David D. Smith of Philadelphia had established a preventive practice and was lecturing and exhibiting his patients in an attempt to persuade other dentists to adopt the same principles. It was quickly recognized that one of the main problems was office time – dentists were needed for operative procedures.

The first suggestion for training women to clean teeth seems to have come from C.M. Wright of Cincinnati, Ohio, who presented, "A Plea for a Subspecialty in Dentistry" in 1902, this subspecialty to be "devoted to the polishing of the teeth and massage of gums."(4) He suggested that these women operators be educated women of refinement, that they be trained in dental colleges and that after one year of study and practice and satisfactory evidence of proficiency they be granted a certificate of competence. They could then be "employed by dentists for this special work, or may practice at parlours of their own, or at the homes of patients, the dentists using their influence and recommending the new specialists . . . ."(5) According to him he had suggested this to a young woman in 1877, and later to another, but since there appeared to be no way to obtain this type of training the idea was dropped.

Wright believed that this subspecialty would revolutionize dentistry and he made an impassioned plea for its acceptance by the dental profession. Fears were expressed that a partially educated subspecialist would be tempted to engage in the illegal practice of dentistry. To counter these fears he suggested that laws controlling the

Four good reasons to recommend Colgate with MFP.*

1. Colgate with MFP reduces new caries incidence.



Almost all fluoride dentifrices are made with stannous fluoride. Colgate is the only one made with monofluorophosphate. Colgate with MFP has been tested in clinical studies adding up to 19 years among 4,234 children in eight cities.

In five of these studies, control dentifrices were used and Colgate with MFP resulted in reduction of new caries ranging from 17% to 34%.

In two of the three other studies against a leading fluoride dentifrice, Colgate with MFP resulted in a reduction of new caries of 11% and 34%, while in the third test, Colgate with MFP was found equally effective.

2. Colgate's advanced fluoride formula is different.

Of the leading fluoride toothpastes, only Colgate has MFP fluoride — a sodium monofluorophosphate formula that appears to convert tooth enamel apatite into fluoropatite, in a way similar to the topical application of fluoride. The effectiveness of Colgate with MFP in combating new caries may be due to the close chemical relationship of MFP and apatite.

3. Colgate with MFP helps keep teeth white.

It is widely recorded in the literature that certain fluorides in aqueous solution and in dentifrices cause brownish-blackish discolouration of teeth because the stannous anion can combine with many cations to form highly-coloured compounds.

Colgate with MFP, however, contains sodium ions — which combine with the same cations to form white or colourless compounds. So Colgate with MFP not only helps protect teeth from caries, but also helps keep teeth white.

4. People like the taste of Colgate.

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Realizing that not everybody's taste is the same, Colgate has also developed a refreshing Winterfresh flavour. Both flavours — Winterfresh and Regular — are recognized by the Canadian Dental Association. In consumer testing, the Winterfresh flavour has proven especially popular with children. And you know how important it is to get kids to brush regularly. Especially with a fluoride toothpaste like Colgate with MFP.

Colgate with MFP fluoride. An advanced fluoride treatment.

"Colgate has been shown to be an effective decay-preventive dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

Canadian Dental Association.

*T.M. Reg'd Colgate-Palmolive Limited

dentist could be modified to allow the practice of these new subspecialists, laws which would control and limit them. He believed women would remain within the scope of their training, saying ". . . . these women must be largely dependent upon the recognition and recommendation of the dentist for their employment, seems to me a barrier against invasion and protection against infringement."(6)

Around the turn of the century F.W. Low of Buffalo, New York, proposed a new profession, that of odontocure; a woman with an orangewood stick, pumice and perhaps a flannel rag would go to patients' homes to polish their teeth.

Fones became a follower of Smith's new preventive practice and through his own practice proved its value. When these beneficial changes were evident, and finding it was not feasible to carry out all the necessary procedures himself, he trained his assistant, Irene Newman, to practice this specialty. In the ensuing years he lectured at the New York College of Dental and Oral Surgery on Dental prophylaxis, and presented many papers and clinics on his technique with Mrs. Newman assisting.

Fones stated that if the dental profession was to stay the flood of dental decay, prophylactic service must be established in public schools to give such treatments, toothbrushing instruction and nutritional counseling. He believed the ideal assistant for prophylactic work would be a woman. "A man is not content to limit himself to this one specialty, while a woman is willing to confine her energy and skill to this one form of treatment. A woman is apt to be conscientious and painstaking in her work. She is honest and reliable, and in this one form of practice, I think, she is better fitted for the position of prophylactic assistant than is a man."(7)

To answer those who thought this assistant should be a dental graduate he said he believed it was unnecessary since this was a matter of developing a delicate touch, and he doubted that a woman graduate would want to confine herself to prophylaxis.

Although Rhein believed a graduate was "the best remedy we have at our disposal" he urged using a dental nurse trained in the hospital and used there as well as in the private office, schools and other institutions. He felt it would be in keeping with other laws to compel these nurses to pass a state board examination and be licensed to practice their profession, not indiscriminately, but only under the prescription of the patient's attending dentist. (8)

It is interesting to note that these four men, Wright, Rhein, Low, and Fones, came to independent conclusions on the advantages of using women as prophylactic assistants and that the concept of their practice is basically the same today!

Did the statements these men made about women being content to do exacting but repetitive work, and the implication that they were less ambitious than men and had less intellectual ability, have a sublimal influence on the practice of dental hygiene over the years? Did we, as well as dentists, assume, even subconsciously, that this was so?

Summary of Dental Hygiene Practices

United States

Although the functions allowed the dental hygienist in the United States vary from state to state, basic procedures allowed are:

1. removing lime deposits, accretions, and stains from unattached surfaces of the teeth
2. applying topical agents essential to a complete prophylaxis

In addition the following expanded functions are allowed in one or more states: placing, carving and polishing amalgam, silicate and composite resin fillings in prepared cavities, removing and inserting temporary dressings, performing non-surgical clincial and laboratory oral diagnostic tests for interpretation by the dentist, removing rough and overhanging margins of fillings, administration of local anesthetics, taking study model impressions, removal of sutures, placing rubber dam and matrices, removing and changing periodontal packs. Preparation of cavities by dental hygienists is only performed in experimental programs. Exploration of other areas of practice in which dental hygienists could function effectively include orthodontic and endodontic specialty practices, nutritional counseling, and myofunctional therapy. Legal records prove that dental hygienists are inclined to practice within the restrictions placed on them.

United Kingdom

The United Kingdom was next to try to introduce the dental hygienist to dental practice. Twelve girls were trained as dental nurses to scale and polish the teeth, apply and remove dressings or temporary fillings, do charting and recording or work of like responsibility. They were not accepted by the profession and when in 1932 the law was changed to exclude temporary dressings and fillings the attempt to train these auxiliaries was discontinued. No further endeavor was made until 1942 when World War II stimulated the use of dental auxiliaries. The Royal Air Force, as an emergency measure to save essential manpower and keep their active service people fit, selected six candidates from the Women's Auxiliary Air Force and gave them four months of intensive, demanding training. The army followed this lead in 1953. The use of dental hygienists in civilian life seems to stem from this time as those who benefited from these services began the movement toward greater "tooth consciousness."

Still auxiliaries were not used in civilian life but the National Health Service introduced in 1948 created the need for an experimental program which was promoted and started at Eastman Dental Hospital, London. One hundred girls in all were successfully trained and 47 ex-RAF hygienists took refresher courses and obtained Ministry of Health Certificates. They were allowed to work only in the Public Dental Service, i.e., hospitals and Local Authority Clinics. Many of these people were pioneers in persuading dentists of their value, and they,

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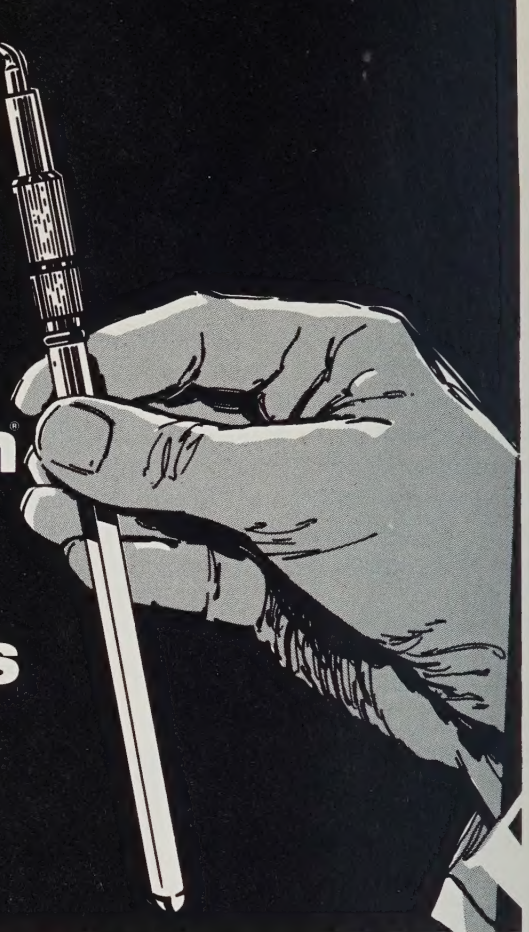

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The transducer (for energy transfer) is an integral part of the *insert.* When you change inserts you also change transducers. This distributes wear among all inserts used. Should a transducer fail, you change inserts and continue to operate *without* costly, time-consuming repairs to the handpiece.

The frequency of 25,000 oscillations per second is ideal for even the most difficult calculus removal while minimizing metal stress and heat production.

The range of tip amplitude (a shorter stroke for sensitive areas, a longer stroke for heavy deposits) enables the operator to adjust the instrument for optimum efficiency consistent with patient comfort.

Inserts, and all components, are completely autoclavable.

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To your patient, these design superiorities mean a gentler prophylaxis treatment and less time in the chair. And that's the big reason for the Dentsply-Cavitron's resounding success with well over 40,000 dentists–and more every day!

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with many enthusiasts within the dental profession, continued to spread the message of dental hygiene.

A new Dentists Act passed in 1957 made the dental hygienist an established ancillary dental worker and allowed employment in private for the first time. The Ancillary Dental Workers Committee, composed of 15 members, is a committee of the General Dental Council. Three of these members are ancillary dental workers, elected by the ancillaries. The Committee considers all matters related to the standard of work and conduct of ancillary dental workers.

The practice of dental hygiene in Britain is determined by the Ancillary Dental Workers Regulations, 1968, created subsequent to an act of Parliament. These regulations state: "Dental hygienists are permitted to carry out dental work of the following kinds under the direction of a registered dentist who has examined the patient and has indicated the course of treatment to be provided:

1. cleaning and polishing the teeth
2. scaling teeth (that is to say, the removal of tartar, deposits, accretions and stains from those parts of the surfaces of the teeth which are exposed or which are directly beneath the free margins of the gums, including the application of medicaments appropriate thereto)
3. the application to the teeth of solutions of sodium or stannous fluoride or such other similar prophylactic solutions as the Council may from time to time determine
4. giving advice within the meaning of subsection (1) of Section thirty-three of the Dentist Act, 1957, on matters relating to oral hygiene.

To quote from a letter from the Registrar of the General Dental Council:

> At their meeting on 14 November, 1972, the General Dental Council agreed to amend the Ancillary Dental Workers Regulations, 1968, to enable ancillary dental workers to apply to the teeth not only solutions of sodium and stannous fluoride but any prophylactic material, including solutions, gels and fissure sealants, prescribed by the supervising dentist. Since the amendment has to be approved in draft by the Privy Council and both Houses of Parliament, it may be some time before it comes into force. Meanwhile, however, schools of dental hygiene and the school for dental auxiliaries are advised that instruction in the application of the materials should be included in their training courses and that, where possible, courses in the use of these materials should be made available for ancillary dental workers who have already been trained.(9)

Canada

Dental hygiene began in Canada in 1951, basically patterned after the United States counterpart. The majority of dental hygienists are in private practice but they are also employed in government, public health, public and private institutions, and education. Many more opportunities are being made available with the development and implementation of publicly financed dental care programs.

Basic functions of the traditional dental hygienist include scaling and polishing the natural and restored surfaces of the teeth, topical applications of anticariogenic agents, dental health education, and exposing and processing dental radiographs. From this starting point each province varies in its legal working and in what other functions it allows the dental hygienist to perform. Some provinces restrict dental hygiene to the above traditional functions, others add such functions as topical application of medicaments to the list and five have specifically listed a variety of expanded functions: mainly placing and carving of plastic restorations in prepared cavities. Diagnosis, treatment planning, cutting of hard or soft tissues, and the administration of drugs are often specifically prohibited.

Education and health, including licensure, are provincial responsibilities, each running its own systems. There is dental hygiene representation on some of the licensing boards, but with the exception of Manitoba, this representation is a non-voting capacity. Manitoba, Quebec, and Ontario are now considering taking the dental hygienist out of the dental practice act and forming a separate corporate body for licensure and control. This is a step toward autonomy which other countries have not proposed. The trend in general is to less restrictive laws, specifying what functions cannot be delegated to the dental hygienist rather than a listing of those permitted. The Well's report recommended restorative functions for dental hygienists but no action has been taken as yet.

Japan

Surveys have shown that most Japanese people brush their teeth with some regularity, but the decay rate and periodontal index, especially among children, are high. Promoted by socialized medical programs and more awareness of dental health, the demand for care is increasing. The dentist-population ratio, approximately 1:2356, the high average of decayed teeth per person, plus the great numbers of people with periodontal disease indicate the need for many auxiliary personnel to cope with these problems.

The dental hygienist in Japan was not born of necessity as might be inferred by the foregoing statement, but by mandate of law. Dentists were not prepared to want or to accept this auxiliary, but even with this handicap, dental hygiene has grown as a profession. The original legislation was passed in 1948, training schools followed, and in 1955 the law was partially revised. As defined in law, dental hygienists are "those females who are granted the license from prefectural governors, who can perform the preventive measures of dental and oral disease, serve as auxiliaries and teach dental education to patients under the direct supervision of dentists."(10) Specific professional skills of the dental hygienist are:

1. scaling, with the mechanical method, of the adhesions and depositions on the exposed surfaces

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Due to the long-lasting, intensive fluoridation, even one application of Duraphat produces definite inhibition of caries. Applied on denture surfaces, it has also proved excellent for desensitizing the necks of teeth.

Because Duraphat dries rapidly, you no longer need to wait after treating each dental section. The different quadrants may be painted quickly one after the other, requiring only a fraction of the time that a fluoride treatment normally takes.

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of the teeth and under the free margin of the normal gingiva
2. application of medicine to the surfaces of the teeth and mucous membranes of the oral cavity.

This assigned role of dental educator and performance of other preventive measures is carried out in schools, public health centers and labour dental health services. The majority of dental hygienists are employed in dental clinics. In direct contrast, the dentist in private practice, who looks on the dental hygienist as a second level dentist, requires her to perform more restorative than preventive services.

Netherlands

Netherlands dentists have taken post graduate courses in the United States and through the FDI they have kept up with dental practice and research, but somehow not up with the use of auxiliaries. After the first dental hygienists were trained in Amsterdam in 1929, interest dropped. A few dentists became pioneers in utilization of such personnel, including Dr. J. Stork, who is known as "The Father of Dental Hygiene in the Netherlands." Through his efforts and those of Dr. G. Dekker and others, young women were trained as dental hygienists in Canada, the United Kingdom, and the United States, to return to practice in their homeland. With the assistance of WHO, ADA, ADHA, deans of dental schools, directors of dental hygiene programs, and individual American hygienists, the first educational program was begun in 1968. Interest has grown and with this growth there is a more positive attitude now evident with every reason to assume that dental hygienists will once again demonstrate their worth and become a vital part of the dental health program in the Netherlands.

It was intended that dental hygienists work in school clinics and two were employed by the School Dental Service. Their numbers have not increased as anticipated, due in some measure to restricted physical facilities. Most school clinics have only one operating unit and since the dental hygienist must work under supervision this is not a feasible arrangement.

Laws have yet to be formulated to regulate the practice and utilization of the dental hygienist, and in the meantime the use of other auxiliary types such as the New Zealand Dental Nurse and the United Kingdom Dental Auxiliary is being considered because of differences in functions and supervision.

Sweden

Sweden has been concerned with the dental health of its children for many years. The first school dental service started in 1905 in a small town in central Sweden. The Swedish Dental Health Service came into operation in 1939 and 55% of the dentist's operating time in district dental clinics must be devoted to care of children. A small group of dental nurses was given prophylactic training and worked in the Public Dental Health Service, but the dental hygienist was not introduced until 1968.

As in other instances, the unmet need for a greater number of dentists to deliver health care, and the realization that prevention would reduce the need for treatment helped bring about the introduction of dental hygiene in Sweden. The experience with dental hygienists in the United States and the United Kingdom and the positive pressure from Swedish dentists resulted in acceptance.

Essentially the dental hygienist working in hospitals or schools performs the same functions, with added emphasis on dental health education, collective fluoride prophylaxis, or special care for those patients in intensive care wards. Dental hygienists work under the supervision and responsibility of dentists with the following delegated functions:

1. instruction in oral hygiene individually or in groups
2. removal of hard and soft tooth deposits and overhangs on fillings; polishing of teeth and dental restorations
3. local application of fluorides
4. prediagnostic measures, (radiographs, impressions for study models, saliva and plaque samples for tests, diet inquiry).

Other Countries

Nigeria, Iran, Norway, Switzerland, India, Thailand, Australia, and Fiji are other countries with identified numbers of dental hygienists, some with schools, as shown in a recent WHO publication. Several additional countries are listed as utilizing this operating auxiliary, a few with schools, some without legal provision for their use.

Historically, the dental profession has been jealous of its education and its particular qualifications for treating dental diseases. The acceptance of the dental assistant was resisted by many dentists and eventually developed only through necessity. The dental hygienist, according to many writers of yesterday, and sometimes today, would perform tedious tasks which the dentist realized should be done but were economically unsound for him to carry out. He believed his time was better spent on restorative services which were more creative and remunerative.

Women, then, were chosen to be trained as dental hygienists because, at that time, they were considered lesser human beings, and thought to be unambitious. Today's dental hygienists rightfully see themselves as well educated specialists in an extremely important health field, for there is no hope filling all existing cavities or to keep up with the dental decay which will continue to develop unless primary prevention of dental disease becomes a way of life for all people. Health must be accepted not just as the absence of disease, but as the presence of total well being. Furthermore, today's dental hygienists are ambitious in the sense that they have perceived inadequacies in the present health system and are making a concerted effort to develop alternatives. They have recognized the need for continuing education and expansion of their role in the delivery of health care services and are willing to support their implementation.

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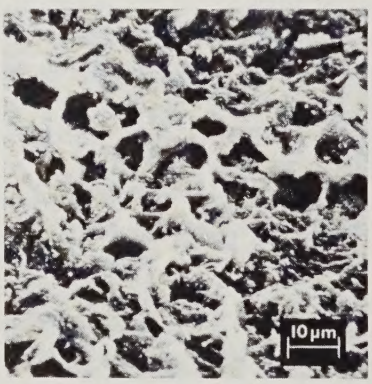

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The prevailing attitudes of men toward women during the first half of this century must have had some influence on slowing the acceptance and progress of the dental hygienist. Our attitude towards ourselves could be another factor. Through years of conditioning we were afraid to be, or maybe didn't even want to be, aggressive. We were unsure of ourselves. Now we occupy a better position in our own estimation and in that of others; we are more secure. Our worth to ourselves and others has been proven beyond the shadow of a doubt. Now we must "make haste slowly" in order to make up for lost time, and we dare not falter in our efforts to attain the higher goal of being a part of the team providing more health services to all people.

As Dr. Hein said last year at the Symposium in London, the entry of males into the profession is bound to add strength; it shatters the handmaiden image and helps fortify the economic position. Men are more likely to be aggressive and not satisfied with the status quo, and in spite of all the women's lib, may be able to face other men better and more forcefully than we, as females, can.

Demonstrated Effectiveness of the Dental Hygienist

The dental hygienist has been a viable entity since 1906. The fact that their numbers have multiplied, their training has increased in quality and quantity, and their role has expanded, and is being expanded further, are sure indications of their effectiveness in the dental health field. There are those who believe they do not need as much education, and those who do not want the role expanded, but no one has said that dental hygienists are ineffective.

Dental hygienists have established themselves as an important part of the dental health team by relieving the dentist of some of his responsibilities and by offering the patient more dental health education than he has ever had before, thus fulfilling the expectations for the profession. Patients who have learned to respect and trust the dental hygienist must number in the millions.

Dental Auxiliary Utilization (DAU) and Training Expanded Auxiliary Management (TEAM) programs, as established in dental schools of the United States, and similar programs in the United Kingdom, are one of the results of the dental hygienist's effectiveness. Through this training dental students learn to use auxiliaries effectively and will surely employ them in private or group practice after graduation. We may be certain that these dentists will know how, and will want to use each auxiliary to the fullest extent of their abilities.

The dental hygienist has not been as effective in determining its professional destiny. Factors contributing to this are the old sociologic relationships of men and women, a lack of interest in changing, and the lack of support of the professional association which must represent a majority of the profession in order to enable it to speak with authority.

Fortunately for dental hygiene, these factors are changing. Women are recognized on a more equal basis, women in general, and professional women in particular, want to contribute in a vital way to the world in which they live, and they realize that much can be accomplished through careful selection of the leaders of their professional organizations.

Other manifestations of recognition are more frequent inclusion of dental hygienists in dental policy-making groups and on licensing examination boards; expansion of decision-making roles from merely acting as consultants; and the requesting not just allowing of dental hygienists to express opinions on laws affecting the profession and dental health care proposals. If dental hygienists had not been effective none of these progressive adjustments would be taking place.

Current Restrictions on the Dental Hygienist

In all instances restrictions on the practice of dental hygiene are legal and/or prejudicial. Although the first dental laws were intended to protect the profession from charlatan dentists, it is now a basic premise that the best interests of the public are served by allowing only specifically qualified individuals to offer their specific services, therefore laws are designed to restrict and regulate the practice of any profession.

All countries require that the dental hygienist work under the supervision, or direction of a dentist. Interpretation of "supervision" differs so some areas require the dentist to be on the premises at all times, others merely the majority of the time. A few jurisdictions limit the dentist to employing only one dental hygienist at a time, others make no mention of a limit.

Connecticut, having the first dental hygienists, consequently had the first laws regarding their practice. In 1907 the dental practice act was amended to make it unlawful for dentists to employ unlicensed assistants for operative work in their offices. Fones advocated a clause to the effect that this amendment should not prevent dentists from employing assistants for the "so-called operation of cleaning teeth." By the time a total of 97 dental hygienists had graduated from the courses presented by Fones he realized the future growth of the profession and drew up and urged adoption of an amendment to the Connecticut law to regulate the practice of these auxiliary workers. In 1915 the dental hygiene practice act, stipulating exactly the limitations of the dental hygienist, was appended to the dental law. It served as a precedent and Massachusetts and New York soon passed similar laws and by 1951 all states recognized and licensed the dental hygienist.

Although wording varies, state laws regulating the practice of dental hygiene were very restrictive in nature, and provided that identified functions be performed under the supervision of a dentist, placing the ultimate responsibility for these services on him. As far back as 1903 Rhein pointed out the permissiveness of the medical profession in allowing the trained nurse to perform so many services and the restrictiveness of the dental profession in not allowing specially trained nurses to be employed.

As the need for more auxiliary services becomes apparent, state laws are being reviewed and updated to

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legally allow the dental hygienist to perform services, the so-called expanded functions, for which formal education has been received. The trend appears to be in the direction of a more open dental practice act which lists the functions which cannot be delegated by a dentist, usually those of diagnosis, treatment planning, prescription of therapeutic or corrective measures, and the cutting of hard and soft tissue, and gives authority to the state board of dental examiners to establish rules and regulations which enumerate the specific functions dental hygienists are allowed to perform. These rules and regulations can be changed by the board as needs of the dental profession indicate, or those of dental hygiene, rather than through cumbersome changes requiring legislative action.

Geographic mobility of the dental hygienist is restricted because of licensure laws and citizenship requirements. Each state, province, or country has guarded its rights and required all applicants to be examined by their appropriate agencies. In the United States, the National Board Dental Hygiene Examination is accepted in lieu of the written portion of the individual examination by all but four licensing jurisdictions, leaving only the clinical portion of the examination to be administered. Some groups of states have now agreed to five regional examinations by which, through proper application, candidates may be licensed in any or all of these participating states. There is little reciprocity or exchange of credentials between states.

Forty-nine of the 50 states require the licensure applicant to be a graduate of an accredited program of dental hygiene. At least two states have been challenged on this requirement and as a result both domestic and foreign trained dentists, because of their "superior" training as compared to the dental hygienist, are allowed to take the dental hygiene licensure examinations. One state allows dental hygienists to be trained through preceptorships. These students are licensed in that state but do not qualify for examination in other states.

There is a growing movement to allow military trained dental hygienists, whose basic science background and clinical experience are not equal to that of civilian programs, to take licensure examinations. A more suitable approach is to determine advanced standing in established dental hygiene programs for these individuals or to upgrade the military training received to meet accreditation standards. In a few instances sophomore dental students are allowed to take the dental hygiene licensure examination.

Similar to the United States, Canada's provinces are autonomous and each requires an examination, but a national board type examination, is being considered. Graduation from an accredited dental hygiene program or from a course of study equal to that of a specified university are common requirements.

All services rendered by the dental hygienist in the United Kingdom must be at the direction of a registered dentist who has examined the patient and indicated the course of treatment. In general practice he must be on the premises at all times; in Public Dental Service this direct supervision is not required.

In order to practice the dental hygienist must have her name entered on the Roll of Dental Hygienists kept by the General Dental Council. The title "dental hygienist" is a protected title, used only by those whose names are on the roll.

Certain countries, without training facilities for dental hygienists, have made special provisions for those trained in other specified countries. As an example, Switzerland accepts dental hygienists trained in Canada, the United Kingdom, and the United States, although each canton votes on whether or not it will allow these auxiliaries to practice within its jurisdiction. Countries in which the dental profession has had to struggle to make the practice of dentistry by unskilled, unqualified persons illegal usually are against, or only give half-hearted support to dental hygienists.

Lack of career options further restrict the practice of dental hygiene and also recruitment into the profession. It is often difficult to accept the fact of being locked into a career where the only way to change or advance is to start anew. Core curriculums which are basic and would allow the student to advance in the desired direction, or several directions, are being revised. Flexible, modernized curriculums which allow the student to progress at his own rate of learning rather than conforming to a calendar time will relieve another restriction of education.

The genetic fact of being a man is a specific restriction since the acceptance of male dental hygienists is not universal. The United States, some provinces of Canada, and the Netherlands do accept males. In the United Kingdom male hygienists are trained only in the R.A.F. and the R.A.D.C. at present, due to the lack of accommodation in the civilian schools, and the few applicants since the salary is not high enough to appeal to men. Sweden used the word "her" and Japan "those females," in legal provisions, leading to the assumption that they do not yet accept males into the profession. Not only are these legal restrictions in effect, but there are dental hygienists and dentists who are prejudiced against males entering the profession.

The other type of restriction mentioned, prejudice, is very real. There are still some dentists who believe that only they can perform quality services for the patient, or they believe that the economics of employing auxiliaries are not favorable. Some are not familiar with the principles of auxiliary management and are reluctant to learn, and some simply prefer to work alone or with a minimum of assistance.

In spite of the demonstrated need for more auxiliaries, there are reports of the lack of employment opportunities. If new employment should become nonexistent for dental hygienists, a very unlikely situation, there are two choices open to the profession. First, it can be defeatist and give up educating more personnel, or at least restrict the number of candidates accepted in each program to the number of graduates who retire. The second, and far better, choice is to promote an active professional relations program to break down the

barriers to acceptance and accentuate the positive value and use of dental hygienists.

Another restriction might be dental hygienists themselves. They are sometimes reluctant to accept more responsibility through any kind of change, no matter who suggests it, the dental hygiene profession, dentistry, or government. An open mind, willing to evaluate new proposals and willing to learn new skills, is a most valuable asset.

A final restriction is sometimes imposed by the individual dental hygienist or dentist – time. Is there always enough time allowed for adequate preventive services and patient education? Or does the financial reward take precedence over the service motive attributed to a profession?

It is no doubt true that the dental hygienist is over-educated for what she does, but if legal restrictions and prejudice were overcome, and the finer characteristics of the profession were given more emphasis, the potential of this auxiliary could be realized in a manner that would effectively utilize skills and judgment to better serve dentistry and the public, and in addition offer deep personal fulfillment to the individual.

The Dental Hygienist in Today's and Tomorrow's Health Care Delivery System

Health care delivery systems need to be reassessed and realigned so that the best care possible can be provided consumers, with savings in costs to them, if possible. In order to accomplish any degree of change so that the profession can meet the tempo of today and the trends of tomorrow, rigid beliefs of former years will require modification. The dentist now in practice will need to understand that in employing auxiliaries he will be better able to utilize his special skills and knowledge, that he will have a more economic practice, solo or group, that there will be the same high standards of quality care, and that more people can receive adequate dental health care.

Dental hygienists of today are only beginning to be able to fulfill their role as dental health educators. They have not been restricted by law, but by practical necessities of finding employment and earning a living, and prejudice or inability of some public health agencies to either understand their value in dental health programs or to financially underwrite such programs. Today's dental hygienist needs to be prepared to perform health care services in any of a variety of situations such as: expanded function dental hygiene; Health Maintenance Organizations, i.e., community health centres, hospitals, geriatic facilities, nursing homes, day care centers, inner city areas, penal and other institutions; private and group practice; and educational settings, or tomorrow's dental hygienist will not exist.

Dental hygienists must promote and enlarge their role in private and public health enterprises. They must learn new skills in the dental health field and in professional and public relations. They must actively sell themselves and their services in order to fill that largely unrecognized need for care.

Statistics show that dental disease begins with the pre-school child and continues at a steadily accelerating rate to affect a large percentage of the population of all countries. In many areas it is recognized as an urgent problem requiring immediate attention. Restorative services are necessary, but how much better to start with the expectant mother and promote dental health education in an effort to eliminate a part of the human disease process.

Today dental hygienists play a dual role as dental health educators and clinical preventive operators. Tomorrow they may be using their knowledge and skills in more advanced treatment areas or as dental health coordinators, and some other auxiliary may be trained to provide dental health education. Right now they need to promote prevention through such means as fluoridation of public water supplies and dental health education, the usual brushing and flossing techniques, and nutritional counseling which has not received the strong emphasis due this significant factor in achieving and maintaining total health.

In preparation for projected needs in delivering dental health care, experimental programs teaching auxiliaries to perform certain restorative functions have been instituted in Canada, the United States, and the Netherlands. The quality and quantity of these procedures meet all acceptable standards. New Zealand and the United Kingdom already use dental auxiliaries to perform a limited number of these restorative functions. The decision as to which existing auxiliary, or perhaps a new one, should be delegated these responsibilities has not yet been universally made, nor can it be universal, for the individual needs and philosophies of each country will influence the final outcome of its decision.

In the United States dental hygienists, because of their background in basic sciences, their already learned skills, and established accredited educational programs and licensure mechanisms are suggested as logical candidates for this new assignment. Although dental hygienists are not in complete agreement on these expanded functions, it would seem to be a reasonable starting point. One auxiliary who is able to perform several functions is more efficient than multiple auxiliaries with restricted functions.

It is easy to envision the usefulness of extended function restorative auxiliaries in a variety of settings including national dental health program clinics or in more remote areas of the country. Because there will be a wide choice of type of practice, not all dentists will need or want to utilize extended function auxiliaries, and dental auxiliaries will still find it possible to choose the type of employment they desire.

When the time comes that there is universal fluoridation of public water supplies, and education in home care, or newly designed preventive measures have drastically reduced the need for dental care, it would be feasible to retain auxiliaries to perform other functions.

Sometimes decisions such as which auxiliary is to perform what functions are tied up with politics rather

than public service. If the profession does not offer some solution to dental manpower problems there is a degree of risk that the government may assume that power with resultant decisions which may prove to be unacceptable to the professions.

Role of the Professional Dental Hygiene Association

In the past the American Dental Hygienists' Association has had considerable influence on events which have led dental hygiene in the United States to its present position. The many accomplishments of the dedicated few who worked so hard are not forgotten or overlooked, but the Association might have had a more dominant role in this development if there had been greater interest and support from graduate dental hygienists. There is now every indication that the Association will increase and broaden its activities to significantly improve the stature of the profession.

Other associations must have had similar problems or will face them in the future. Canada now has an opportunity to guide the formation of the new College of Dental Hygiene which may be a model to other associations. Japan has its difficulties because of the lack of uniformity of education of dental hygienists; other areas of concern in which their Association is working are the status of the profession and membership.

There is a continuing need to increase the support of all dental hygiene professional associations, for it is necessary not only to recognize but to act on the more complex and demanding problems facing the profession. The association is the voice of the profession in every country and should be best qualified to state its position. The association should systematically and objectively review the profession, see its deficiencies and propose solutions to them.

The following is a partial listing of areas of concern to dental hygiene associations. They are not in any particular order of importance, for they are not all necessarily applicable to every country, at least at this time:

- Define the function of the dental hygienist
- Formulate a well defined image of a qualified dental hygienist
- Assess manpower needs with thought given to maldistribution of dental hygienists
- Study methods of delivery of dental health care, with particular emphasis on needs of children
- Promote continuing education for the practicing dental hygienist and for those who return to the profession
- Formulate quality control guides
- Establish public relations programs to assist in educating the public to seek dental health care
- Promote willingness among its members to change their role
- Influence educational programs and establishment of new programs
- Establish a data bank containing demographic figures of all kinds
- Study means of greater geographical mobility for dental hygienists
- Assist in establishing career mobility
- Establish contact with dental associations and other allied health organizations
- Encourage minority groups to enter dental hygiene
- Lobby for better laws affecting the profession and dental health of the consumer
- Establish or enlarge scholarship and loan programs for students
- Increase student involvement in Association activities
- Establish more structured international dental hygiene relationships

The Future of Dental Hygiene

The dental hygienist was created 67 years ago to offer preventive dental health services and dental health education to patients in the dentist's office. The benefits were so great that it was only logical to make sure that they were provided for children before dental disease started, and the school, or public health dental hygienist, became a reality. The clinical practice of the dental hygienist has not changed appreciably, nor has the dental health educator's role.

Dental hygienists have provided credible evidence of their effectiveness and worth in each situation they have encountered but the status quo is no longer appropriate. We cannot pretend that we are suspended in space; instead we must react to reality and devise a way to meet the complexities of our professional world. We are young enough, at heart, at least, to be optimistic and be challenged by the thought of moving ahead. It has been proven that people with ability, and we are, when given responsibility will meet it with positive action and in innovative ways. It is time we asked for and accepted more responsibility on the dental health team.

Idealistically, total prevention of oral disease is the ultimate goal of the dental profession. Realistically, this goal is not likely to be attained. Using all your complex and diverse abilities in an attempt to achieve this ideal and the tremendous potential of the dental hygienist should be a very real challenge to you who represent the now international profession of dental hygiene.

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THE ROENTGENOGRAPHIC DEPICTION OF PERIODONTAL DISEASE

JOHN F. PRICHARD, D.D.S.

Dr. Prichard, a practising periodontist, is Diplomate and Vice-Chairman of Directors, American Board of Periodontology.

The roentgenograph is an essential part of the case work-up for the periodontal patient. Periodontal pockets are found with a probe during the clinical examination. Signs, such as clinically visible inflammation, are observed, and mobility patterns are noted. However, the extent of the damage caused by the periodontal infection is recorded roentgenographically. Accurately projected, exposed, and processed roentgenographs record an image of the interalveolar and interradicular bone, the clinical-crown-to-clinical-root-ratio, and root morphology. The roentgenographic image is used to assess the amount of bone destruction caused by periodontal disease, and the roentgenograph is essential for planning periodontal and prosthetic treatment and for determining the prognosis.

The Roentgenograph and Prevention

Periodontitis is present before there is discernible roentgenographic evidence of disease. Ideally the occurrence of disease is prevented; however, the prevention of extension of disease also must be pursued. Prevention of extension is the objective when it is too late to prevent occurrence.

The Roentgenographic Image

The roentgenograph is a composite picture; it requires interpretation of a three-dimensional structure from study of only two dimensions. The roentgenrays pass through various structures which all offer different degrees of resistance to their passage. Enamel, dentin, pulp, compact bone, spongy bone, and soft tissue together with materials used in restorative dentistry, such as amalgam, gold, cement, silicate, plastics, and porcelain, produce various shades on which interpretation is based.(1)

The value of a roentgenograph depends on the amount of information, roentgenographic detail, recorded on film. Information also depends on sharpness of the shadows called roentgenographic definition. Motion of the tube, film, or subject during exposure causes poor definition. There will be distortion if the planes of the film and the object are not parallel, as in the "bisect-the-angle" technique (Figure 1). The factors that determine the degree to which a roentgenographic image conforms to its objected, called geometric factors, include the degree of sharpness, enlargement and distortion of the image. The size of the focal spot and the target-film distance determine the geometric accuracy.

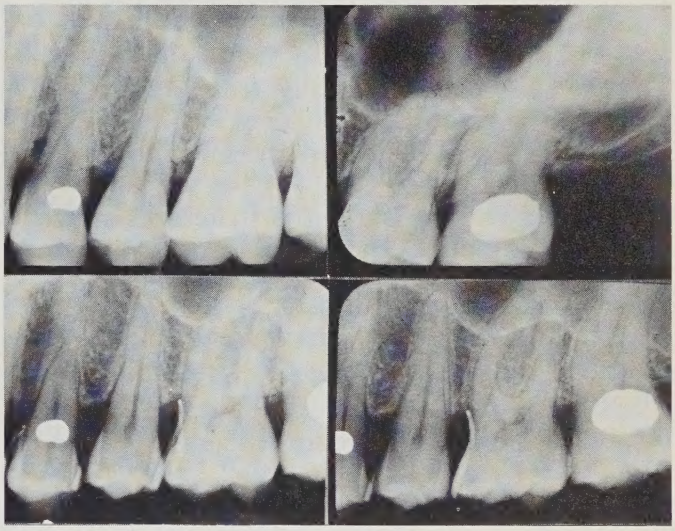


Figure 1 - Above, Distortion caused by inaccurate horizontal and vertical angles of projection and incorrect film placement creates false image of vertical bone defects. Below, Parallel projection across interalveolar crests with embrasures open and gutta-percha cones in gingival pockets; there were no bony defects.†

Correlation of Clinical Examination and the Roentgenograph

Anatomic points to be studied include the position, size, and contour of the crowns and pulp chambers, axial alignment of the teeth and the relations of marginal ridges, contact areas, root form and length, interproximal spaces, the periodontal space, and surrounding osseous structure.(2)

With correct vertical angulation, the cusps of posterior teeth are superimposed on one another and the occlusal surface does not show on the film (Figure 2). When proper horizontal angulation is used, the embrasure spaces and septal bone are shown (Figure 3). Accurate orientation of the cemento-enamel junction to the position of the crests of the interalveolar bone depends on correct vertical and horizontal angulation. (3) (Table 1)

TABLE 1†

LIMITATIONS AND BENEFITS OF ROENTGENOGRAPHS

Limitations of Roentgenographs

The limitations of dental roentgenographs in the diagnosis of periodontal disease are:

1. Roentgenographs do not show the periodontal pocket.
2. They do not specifically distinguish between the successfully treated case and the untreated case.
3. They do not record the morphology of bone deformities.
4. They do not show the structures on the buccal, lingual, and labial aspects of the tooth.
5. They show no soft-to-hard tissue relationship.
6. They do not record tooth mobility.

Benefits of Roentgenographs

The benefits of roentgenographs in periodontal examinations are:

1. With correct technique, the position of septal bone of the tooth usually can be recorded in one plane.
2. The roentgenograph acts as a monitor of the clinical examination. It may confirm a physical examination or suggest areas for such an examination. However, it cannot, by itself, offer conclusive evidence.
3. The alveolar bone, the alveolar process, and the periodontal space on the mesial, distal, and apical aspects of the root are recorded on the roentgenograph in a single plane.
4. The clinical-crown-to-clinical-root ratio is documented.
5. Dense deposits of calculus and the margins of metallic restorations may be observed on the proximal surfaces of the teeth.

Figure 2 - A common mistake in dental roentgenography is to direct the x-rays from the apex toward the crown of mandibular molars. The roentgenograph on the left was made in this way and is worthless for interpretation. Right, Accurate image created by projecting x-rays across the occlusal surface at right angle to the teeth and film.†

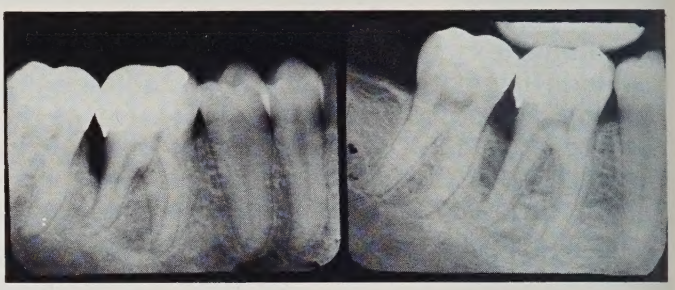


Figure 3 - Left, Image distorted by incorrect vertical and horizontal angles of projection (65 Kvp., 10 ma., inadequate filtration). Right, Correct angle of projection teeth are not overlapped; embrasures are open, showing image of interalveolar bone (90 Kvp., 15 ma., 3 mm filtration).†

Osseous Defects in Periodontal Disease

Various specific defects, such as interproximal craters, hemisepta, intrabony defects, furca invasions, and inconsistent margins, occur in periodontal disease, but their exact form cannot be determined from the roentgenograph alone. Where the dental arch is wide, periodontal defects are usually more severe than their roentgenographic image (Figure 4). In the narrow arch, such defects may be less severe than they appear on the roentgenograph. Root dehiscence is not recorded on the roentgenographic image (Figure 4).

In periodontitis uncomplicated by periodontal traumatism, vertical deformities in interproximal septal bone will show a close correlation between pocket depth and the base of the bony deformity on accurate roentgenographs.(4) Pocket depth can be recorded on the roentgenograph by inserting roentgenopaque material, such as gutta-percha points, into the pocket.(5) The relationship of the buccolingual position of the insert to the tooth should be noted on the patient's record since the roentgenographic image is in one plane. (6, 7)

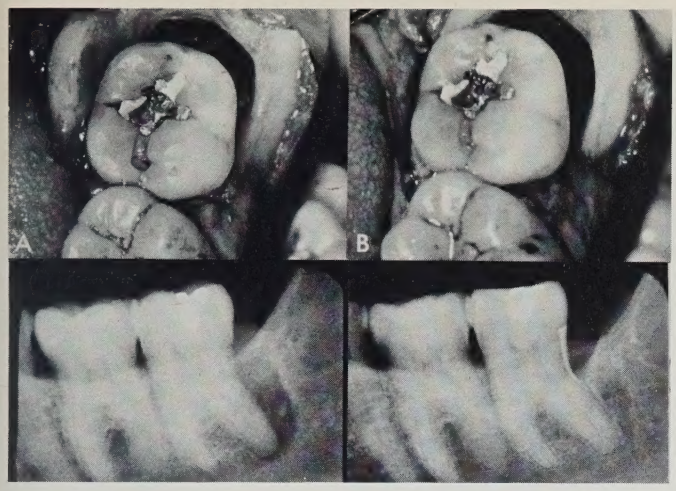
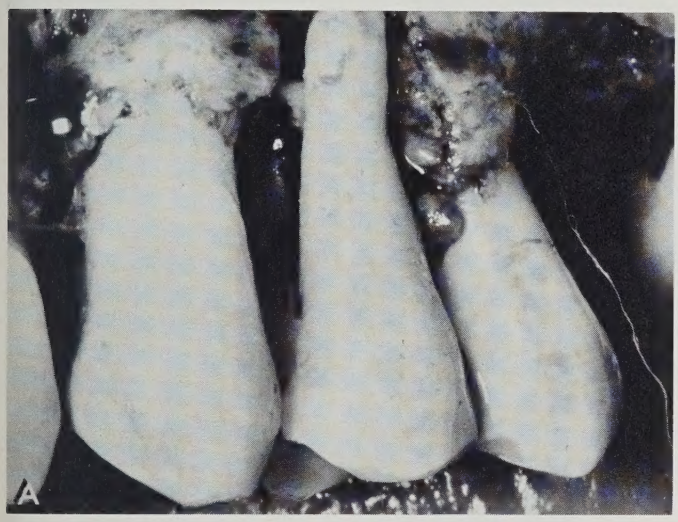


Figure 4 - A. Photograph from occlusal perspective showing intrabony defect on distal and buccal surfaces of mandibular second molar. B. After osteoplasty to reduce bony enlargements on buccal and lingual sides. The intrabony defect extends from the distolingual line angle to the mesiobuccal line angle (this is not a circumferential defect). C. Left, Before intrabony surgery. Right, Gutta-percha cone in gingival crevice four years after surgical intervention.†



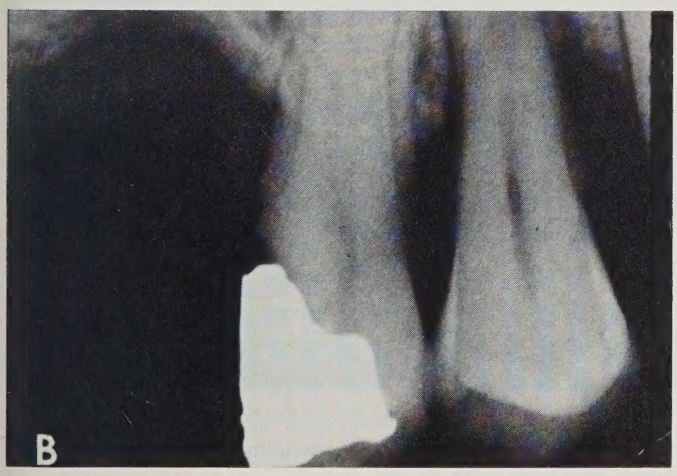


Figure 5 - A. Dehiscence of buccal root of maxillary first bicuspid. B. Roentgenograph records evidence of extensive loss of marginal bone but no indication of the dehiscence or of periapical pathosis. The exposed apex can be identified by palpation during the clinical examination.†

Pulpal Disease

Pulpal disease often causes marginal and interradicular bone destruction that roentgenographically cannot be distinguished from periodontitis. Few dentists ever realize that pain can be of pulpal origin unless there is an obvious open cavity in a tooth or roentgenographic evidence of periapical pathosis. The roentgenograph will show only structural changes; it gives no indication of health or disease of the pulp tissue and it does not indicate the presence or absence of infection.(8)

Periodontal Traumatism

Periodontal traumatism may be seen as widening of the periodontal space due to resorption of alveolar bone (lamina dura) and root resorption. The alveolar bone and periodontal space on the mesial, distal, and apical aspects of the tooth are recorded on the roentgenograph. However, the most extensive damage from periodontal traumatism is usually on the buccal and lingual surfaces where it cannot be recorded on the roentgenograph. A tooth with extreme mobility in the buccal and lingual directions may not show any roentgenographic evidence of change in the periodontal space.

The diagnosis of periodontal traumatism is made from clincial mobility tests, percussion, observation of the occlusal wear pattern of the teeth, and the habit history of the patient. The enlarged periodontal space will be recorded on the roentgenographic image, if it is on the proximal or apical aspect of the tooth (Figure 6). The roentgenographic image may be completely normal with extremely loose teeth.

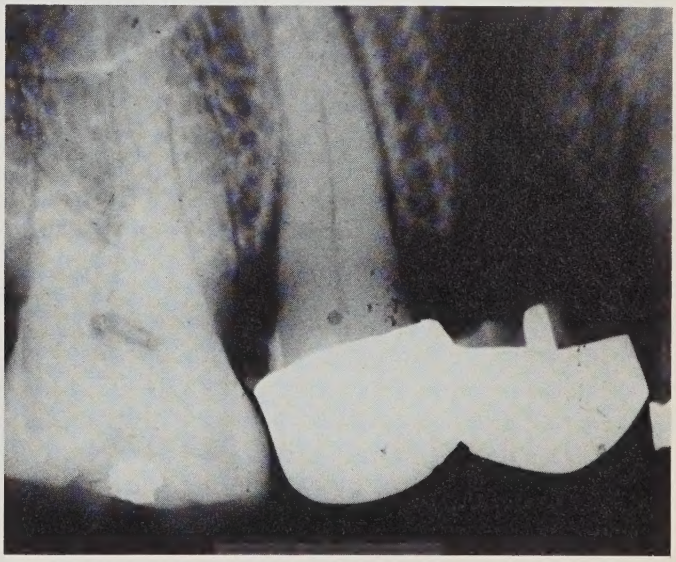


Figure 6 - Maxillary second bicuspid that is being subjected to movement in the mesial and distal directions through a cantilevered pontic. Alveolar bone and the periodontal space show evidence of trauma.††

The Effect of Local and Systemic Factors on Bone

Metabolic bone disease affects bone throughout, it does not attack the margin first. It causes alterations in trabecular pattern and quality of bone. The jaws reflect endocrine dysfunction just as other parts of the skeleton do. The effect of periodontitis on bone always begins at the margin or crest of the alveolar process, and resorption progresses in an apical direction (Figure 7). The resorption of crestal bone is the natural consequence of inflammation and infection in the gingivae (Figure 8).

Carcinomas of the jaws are manifested most frequently as osteolytic lesions with more diffuse bone destruction than usually is caused by periodontal diseases.

Equipment

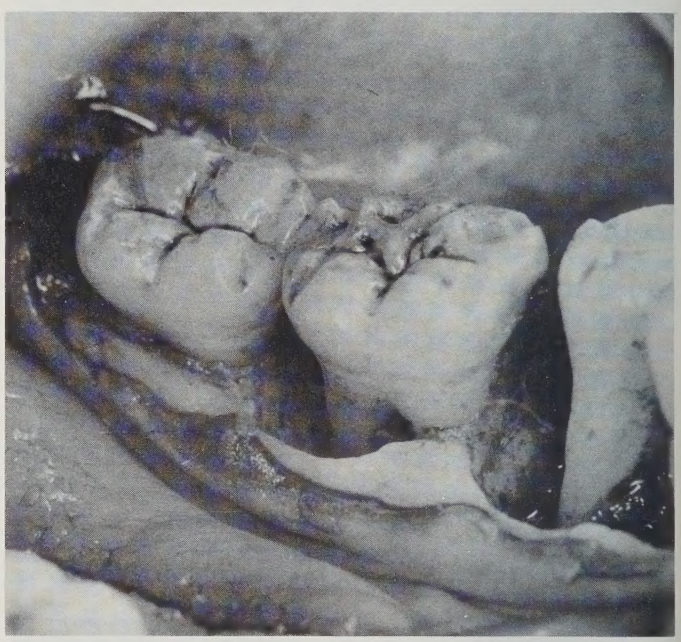
An x-ray unit capable of delivering at least 90 kilovolts peak (Kvp.) at 15 milliamperes (ma.) is required for acceptable dental roentgenographs. Obsolete dental x-ray units should be discarded because they produce scattered radiation that may be harmful to the patient and the operator in addition to causing fog on the film. An open-ended cone providing a minimum of 16 inches target-film distance, three millimeters of aluminum filtration, and a lead diaphragm to collimate the radiation beam are all essential for safety and to produce good roentgenographs. Small beams and proper filtration reduce unnecessary radiation. Fog also occurs from careless handling and storage of films, improper temperature of processing solutions, and exposure to light in the processing laboratory either from outside light or from the darkroom safe light.

A comprehensive examination requires 18 to 24 intraoral films. Double film packets should be used. This has several advantages. The films should be developed for different lengths of time thus varying the density. One film can always be retained with the patient's permanent record. The Rinn XCP film holder designed by Updegrave is used to simplify the parallel technique of film placement.(9)

Films must be arranged in **opaque** mounts and studied on a view box with adequate illumination of an even intensity over the entire film area. The mount must cover the illuminated surface completely as light around the sides or through the mount greatly interferes with accurate vision.

Interproximal bite-wing and accurate periapical roentgenographs complement each other in examination of the alveolar crests and interproximal tooth surfaces.

A.



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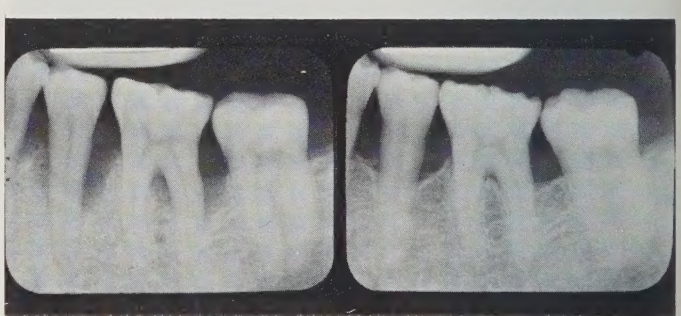

C.

Figure 7 - Bony defects caused by periodontitis. A. Buccal aspect after contouring bone on the mesial aspect of the second molar, over the buccal surface of the mesial root of the first molar and between the bicuspids. B. Wide intrabony defects on the lingual aspect. C. Left, Before surgery. Right, Nine years after treatment. The pockets were eliminated and the contacts closed without orthodontic treatment.†

Kilovoltage

An image of osseous defects caused by periodontal and pulpal disease may not be recorded with inadequate kilovoltage (Figures 9 and 10). Bone requires the greater penetration of high kilovoltage for accuracy. Septal bone in interproximal and interradicular spaces is recorded on the roentgenograph, but bone over the tooth root is not recorded with any technique. Roentgenographs made with high kilovoltage have a long scale contrast and appear dull by comparison with those made with 65 Kvp. and 10 ma., but they have improved character for interpretation.

The exposure time and milliamperage are constant, but the penetration, kilovolt peak, is varied depending on the thickness and density of the region being examined. Variable (high) kilovoltage is required for detail in dental roentgenographs (Figure 11). Updegrave has shown that 80 Kvp. and above, a cement base can be differentiated from a metallic dental restoration, but with less than 80 Kvp., the cement and metal appear as one.(10) Good bone detail requires variable kilovoltage, and optimum detail is essential to depict defects in bone caused by periodontal disease.

Density and Contrast

Roentgenographic density is the degree of darkening of exposed and processed film. Various degrees of blackening of finished films provide roentgenographic contrast. Scattered radiation causes roentgenographic fog that reduces subject contrast. Scattered radiation is reduced by keeping the radiation beam as small as possible. Overdevelopment causes chemical fog and underdevelopment fails to bring out all contrast.

Acceptable density for interpretation is obtained through correct exposure, that is, time and milliamperage. The time of exposure is determined by the type of film used, the amount of filtration in the x-ray unit, and the tartget-film-distance employed. Geometric quality of the roentgenograph depends on the size and position of the focal spot, angle of projection, and the target-object-film distance. Roentgen quality depends on milliamperage, kilovoltage, and exposure time. Photographic quality depends on the film and laboratory processing.

Film Placement

The parallel technique of x-ray projection, which requires placement of the film parallel with the long axis of the teeth, will give repeated roentgenographs that are highly accurate. The "bisect-the-angle" technique gives a different

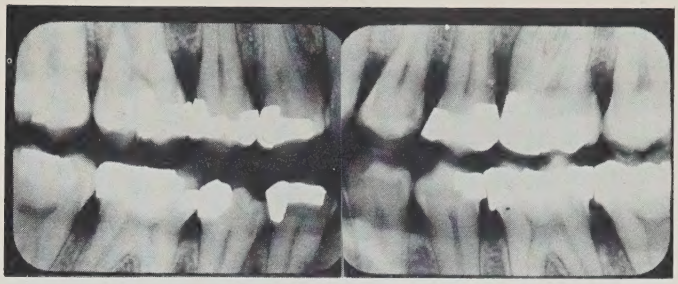

Figure 8 - Interproximal "bite-wing" roentgenographs showing resorption of interalveolar crestal bone in periodontitis.

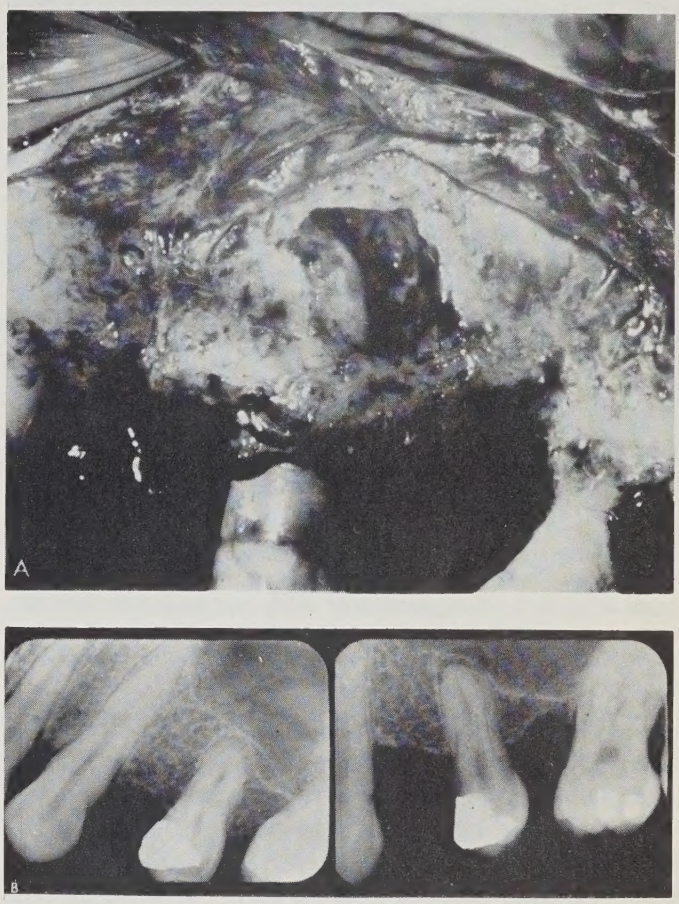

Figure 9 - A. Fenestra in buccal surface of alveolar process and floor of maxillary sinus from periapical pathosis. B. Left, Roentgenograph made by "bisect-the-angle" technique does not show evidence of periapical pathosis. Right, The parallel technique and high Kvp. record distinct image of periapical roentgenolucency, but it appears smaller than the actual lesion.†

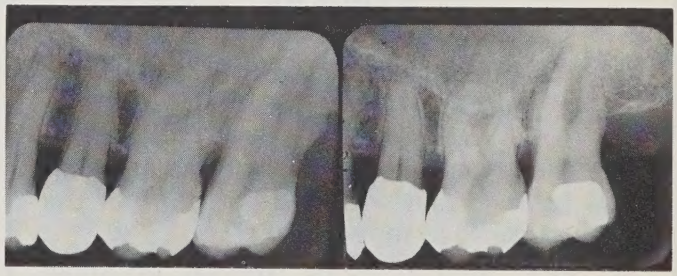

Figure 10 - Left, Distortion and inadequate penetration obscures pathosis in maxillary second molar region. Right, corrected angle of projection and film placement with adequate penetration (Kvp.) shows image of interalveolar and interradicular bone loss on second molar.

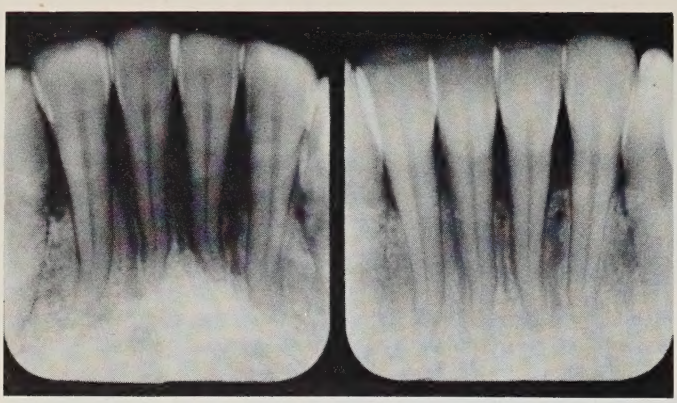

Figure 11 - Roentgenographs of mandibular incisor region. Left, Interalveolar bone crests are not recorded on film exposed with 65 Kvp. and 10 ma. Image of teeth and bone is distorted by incorrect film placement and acute vertical angle of projection and film placement with 74 Kvp. and 15 ma. records distinct image of interalveolar crests and a more coronal level of bone than expected from image in A.†

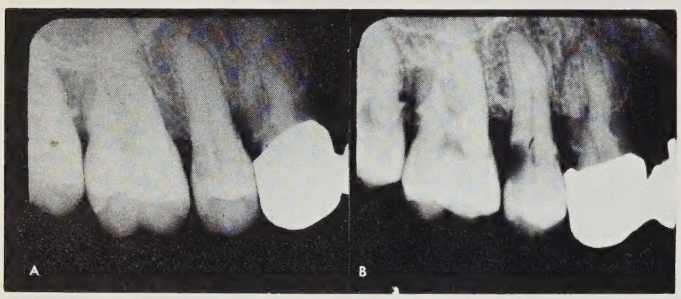

Figure 12 - Patient referred to periodontist because of pain. A. Roentgenograph made by "bisect-the-angle" technique and 65 Kvp. shows evidence of periodontitis with no indication of the cause of pain. B. Roentgenograph made one hour later with 86 Kvp. and parallel projection shows image of cavity causing pulpitis. The cavity was easily located with a mouth mirror and explorer.†

crown-root-ratio and bone level each time a roentgenograph is taken.

With the "bisect-the-angle" technique the vertical angle of projection causes distortion of the recorded image. The position of marginal bone is not recorded accurately in relation to the teeth, and dental caries and restorations record a distorted image in relation to the pulp chamber and root canals. If the *horizontal angle* of projection is inaccurate, the teeth will be overlapped and the films cannot be used for any purpose. (Table 2)

TABLE 2†

CRITERIA OF ACCURACY OF ROENTGENOGRAPHS

1. The image of the tips of molar cusps will be recorded with little or none of the occlusal surface showing.
2. Open interproximal spaces, proximal contacts do not overlap unless the teeth are actually out of line anatomically.
3. Distinct enamel caps and pulp chambers.

To be useful the roentgenographic image must be anatomically, roentgenographically, and photographically accurate (Figure 12). Of these required qualities, *anatomic accuracy* is the most important. Anatomic accuracy is obtained by placing the film as nearly parallel with the long axis of the tooth as the anatomy of the mouth will permit. The roentgen rays are projected at a right angle to the film; the vertical angle of projection is across the occlusal surfaces of the teeth and the horizontal angle is through the interproximal spaces. Anatomic limitations often prevent absolute parallelism, but the divergence will rarely be enough to make an acceptable roentgenograph impossible. Parallel film placement positions the film some distance away from the teeth (except in the mandibular molar region), and a *minimum* target-film-distance of 16 inches is required to reduce magnification. Twenty inches is better than 16 inches and a major improvement can be obtained by using a target-film-distance of 24 inches. This is often called the "long-cone technique" but this is incorrect; it is a film placement technique. The long cone is mandatory because of the position of the film, otherwise it would be of no value.

Panoramic Roentgenography

The panograph is sometimes a useful *adjunct* to properly projected and exposed intraoral films. It has no value in periodontics, endodontics, and operative dentistry. It has limited value in prosthodontics, pedodontics, and orthodontics. Its greatest value is in the field of oral surgery since it provides an overall view of unerupted teeth, cysts, and maxillary and mandibular fractures. However, the panograph should not be used by the exodontist to determine the need for extraction of fully erupted teeth since it does not record the alveolar bone and process accurately.

The panograph records an image of basal bone, that is, the region beyond the apices of the teeth. It is an improvement over the "5X7 lateral jaw" film that has been used widely in the past to supplement intraoral films, but the improvement may not be enough to justify the expense of special equipment. Panoramic equipment was developed to provide a screening examination for personal identification records. The image it records is grossly distorted through magnification (Figure 13). It is useful as a screening mechanism in hospital trauma rooms and in oncology, but in routine office practice four interproximal "bite-wing" films provide a much better screening examination.

Useful x-ray examination of the oral cavity is difficult, but with modern equipment including

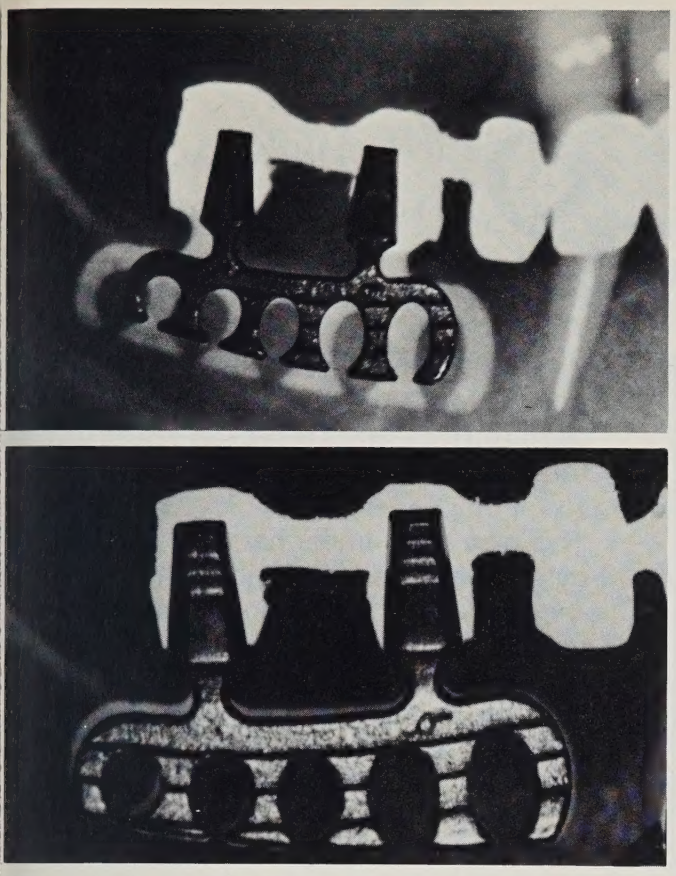

Figure 13 - Roentgenographs of endosseous implant in mandible with duplicate metal implant placed over image. A. Section of panograph showing extreme distortion of image. B. Intraoral film made with parallel technique showing only slight distortion. (Prosthesis courtesy of Dr. J.W. Smerke).

TABLE 3†

Information That Can Be Obtained Only From Roentgenographs:

1. Root length and morphology.
2. Clinical-crown-to-clinical-root ratio.
3. Approximate gross amount of bone destruction.
4. Most coronal position of bone in the septal regions.
5. Condition of the alveolar bone and periodontal space on the mesial, distal, and apical aspects of the root.
6. Position of the maxillary sinus in relation to the periodontal deformity.

Information That Cannot Be Obtained From Roentgenographs:

1. Existence or absence of periodontal pockets.
2. Morphology of bone deformities.
3. Soft-to-hard tissue relationship.
4. Tooth mobility.
5. Position or condition of structures on the buccal, labial, and lingual aspects of the tooth.

the Updegrave film holders assistants can be trained to make accurate intraoral roentgenographs. In man's quest for something quick and easy many dentists use the panograph instead of intraoral films. This relieves them of responsibility since the machine does it all. However, it also eliminates the diagnosis of everything except gross lesions and malformations. (Table 3)

Summary

The roentgenograph may provide essential and positive evidence of periodontal and pulpal diseases, it may provide no information at all, or it may be misleading.

Periodontal disease affects bone at the margin or crest while metabolic disease affects bone throughout. Metabolic disease does not attack the margin of bone and it does not affect the margin more than elsewhere.

The correctly projected dental roentgenograph is a mesiodistal silhouette of teeth in their supporting bone. By changing the penetration (kvp.) for the density of the region being examined but keeping the milliampere seconds and exposure time constant, roentgenographs of uniform quality can be made. Use of the roentgenograph in diagnosis and treatment planning demands knowledge of the anatomic structures that can be recorded and their roentgenographic appearance. It follows that distortion and inaccuracy of the image will be recognized.

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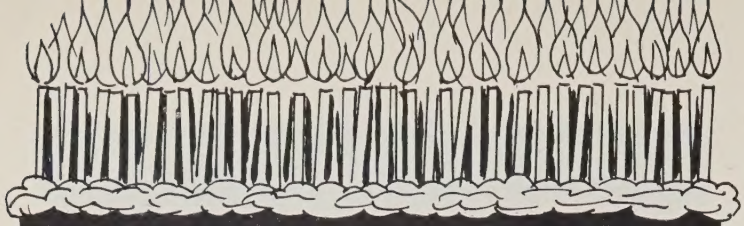

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SEVERE DISCIPLINING CREATES FUROR IN ONTARIO

Four Ontario dentists have been penalized with one to six month suspensions of licences (with partial remissions in some cases); plus $1,000 fines, plus legal fees by the Royal College of Dental Surgeons of Ontario. The four were convicted of "infamous, disgraceful, or improper conduct" in permitting their dental assistants to do preventive dentistry including fluoride treatments, tooth polishing, oral hygiene instruction and taking impressions of teeth for study models. Apparent original source of some of the complaints to the College were hygienists, who are the only auxiliaries licensed in Ontario to perform these functions.

The Ontario Dental Association has refused to intervene with the Royal College to stop disciplining, although a number of local societies have requested the Association to act. President Mel Charendoff has told the societies that they are asking for something the Association cannot ask the College to do.

"The reason these dentists are breaking the law is because they desperately need qualified auxiliaries such as dental hygienists and we don't have them," he said. "It is a regrettable position for the Royal College to be in but one which is unavoidable because the law does exist."

Instead the Association has written the Minister of Health of the great urgency to resolve the situation quickly, asking him to outline by the end of November what plans the Ministry has to relieve the acute shortage of dental hygienists.

CDA Newsbeat

CDHA MEMBERSHIP

The membership drive for 1975 is almost completed in the various provinces and the figures below indicate CDHA memberships received by the national chairman to date.

	Active	Junior	Associate	Honourary
British Columbia	176	40		
Alberta	143	87		
Saskatchewan	22			
Manitoba	77	28		
Ontario	322	93		
Quebec	27	158		
Prince Edward Island	14			
New Brunswick	13			
Nova Scotia	61	29		
Newfoundland			12	
Northwest Territories			2	
USA and Other Countries			15	1

ADHA ANNUAL CONVENTION

The Alberta Dental Hygienists' Association Annual Convention will be held May 22 to 24 at the Jasper Inn in Jasper, Alberta. The topic of the key-note address is "Transactional Analysis" and featured speaker will be Norm Amundson. For further information, please contact: Mrs. Linell Koenig, 11332 - 70 Street, Edmonton, Alberta

CARE-MEDICO SEEKS HYGIENISTS FOR NIGERIA

CARE-MEDICO has recently concluded an agreement with the North Central State of the Government of Nigeria to establish a dental hygienist auxiliary training program, according to Leo A. Pastore, CARE program officer. Two dental hygienists with teaching experience are being sought for the program which, initially, is planned to last two years. The North Central State Government will certificate graduates of the program.

Interested, qualified dental hygienists are urged to apply as soon as possible. Application forms may be obtained from the Council on International Relations, American Dental Association, 211 East Chicago Avenue, Chicago, Illinois, 60611, U.S.A.

FEDERAL AND PROVINCIAL HEALTH MINISTERS MEET

Federal and Provincial Ministers of Health met January 14th and 15th, 1975 at the Canadian Government Conference Centre in Ottawa. Items for decision included: A New Perspective on the Health of Canadians, Federal-Provincial Financing Arrangements, Mental Health, Alcohol Abuse, Indian Health, Physician Supply and Influenza Vaccine Production. Copies of the conference agenda along with explanations in supporting statements may be obtained from the Information Directorate, Health and Welfare Canada.

WESTERN CANADIAN DENTAL CONVENTION

Auxiliary Program

June 11 - 15, 1975

Saskatoon, Saskatchewan

Feature Speakers:

Brigadier-General Bhaskar – "Current Concepts in Dentistry", including several topics especially pertaining to auxiliaries: "New Practical Aspects in Periodontics" and "New Findings in Operative Dentistry".

Dr. and Mrs. Robert Samp – "Problems in an Uptight world."

Entertainment during the convention will include a tour of Saskatoon's new Western Development Museum, followed by a barbecue and dance, and a more formal "Baron's Ball" which will feature a medieval theme.

Advance registration is $30.00 (before June 1).

For additional details contact:

Mrs. Helen Osback
Dental Assistant Program
Kelsey Institute of Applied Arts and Sciences
Saskatchewan S7K 3R5

EXPANDED DUTIES IN ONTARIO

When enacted early in 1975, The Health Disciplines Act in Ontario will provide for expanded functions for both dental assistants and dental hygienists who have successfully completed a formal training program. The intra-oral functions for the expanded duty dental assistant will include:

1. Application and removal of rubber dam
2. Polishing of the coronal portion of teeth
3. Application of anti-cariogenic agents
4. Taking impressions for study models.

The functions for the expanded duty dental hygienist will include:

1. Removal of sutures and dressing
2. Placement, finishing and polishing of amalgam, silicate and resin restorations
3. Placement and removal of matrix bands
4. Insertion of cavity liners and bases
5. Insertion of temporary fillings
6. Fitting and removal of orthodontic bands and other duties.

Plans are now being made to organize formal training programs for these expanded functions and it is estimated that one to three months of training may be required to reach the upgraded level.

L'HYGIENE DENTAIRE ET L'ORTHODONTIE

Après voir effectué maintes recherches sur la publicité existante dans le domaine de l'hygiène dentaire en orthodontie, nous avons constaté qu'il n'existait aucune publication française sur ce sujet.

Dans le cadre du cours de Dentisterie Préventive et Sociale enseigné par Monick Valois au C.E.G.E.P. François Xavier Garneau de Québec, nous sommes trois étudiantes ayant travaillé à l'élaboration d'un pamphlet publicitaire répondant à ce besoin. Voici globalement les résultats de nos efforts.

A la suite des différentes visites chez les orthodontistes, nous avons constaté qu'il existe pratiquement aucune notion d'hygiène dentaire valable. Les quelques conseils apportés au patient par l'orthodontiste ou son "assistante" portent surtout sur l'alimentation et la properté de l'appareil. Il n'y a aucune explication en ce qui concerne la plaque, les maladies de gencive, la methodé de brossage efficace, etc.... L'handicap majeur parâit-il seraite le "manque de temps".

Notre brochure vise donc à remédier à cette situation en proposant une méthode de brossage dédiée aux porteurs d'appareils orthodontiques. Celle-ci s'applique à déloger la plaque des dents et les débris alimentaires de la prothèse. En ce qui a trait à l'utilisation de la soie dentaire, l'orthodontiste ne considère pas utile d'en enseigner l'usage. Pour notre part, nous la jugeons adéquate pour les cas suivants: porteurs de prothèses amovibles, pour ceux dont certaines régions dentaires sont sans appareils et pour les patients dont le traitement est terminé.

Il est finalement question de l'alimentation à conseiller et à éviter, des comprimés réválateurs, et de l'emploi de l'hydropropulseur. Toutes ces méthodes furent expérimentées et les résultats furent concluants.

Nous considérons que ce pamphlet sera d'un vif intérêt auprès des patients et des professionnels dentaires. Il a été monté par une agence publicitaire. Notre problême est maintenant de le faire imprimer et distribuer.

Suzanne Martel-Benboulaid,
Louise Bourassa,
Serge Wagner,
étudiants en hygiène dentaire, coll. III au C.E.G.E.P. F.X. GARNEAU

CDHA JEWELERY

When ordering either the charms or pins, please indicate on the cheque the item wanted (pin or charm), type of metal, your name and address. The cheque should be made payable to **O.B. Allan Jewelers Ltd.**, not Jo Gardner or CDHA. Orders will be processed more quickly if sent directly to Jo Gardner, CDHA Membership Chairman, 1125 West 54th Avenue, Vancouver, B.C. V6P 1N3.

CONSTITUENTS' NOTEBOOK

Ontario

- Dental Health Week in Ontario followed the CDA slogan, "Cavities are mean so keep your teeth clean", and was aimed at the high school group. Carola Hock, Community Dental Health Chairman, made up a kit containing helpful material and aids for the various local societies who sponsored the programs in shopping centers and schools.

Jane Costigane

- Ontario's 11th Annual Spring Convention will be held in Toronto at the Four Seasons Sheraton from May 18 to 21, 1975. The theme is "Unity '75" and the program is designed to promote increased interaction between the ODA, ODHA and ODNAA. Speakers will include: Dr. Ron Cunningham, "The Team Approach"; Dr. D'Arcy Atkins, Dr. Jack Anderson, "Recent Techniques in Helping Your Patient to a Healthier Mouth"; an RCMP officer, "Drugs in our Society"; Dr. Bob Borris and Dr. Sidney Fireman, "Temperomandibular Joint Problems"; and Dr. and Mrs. (Dr.) Robert Samp, "Shortcuts to Longevity". In addition, there will be table clinics and the ODHA general meeting. The Tuesday luncheon honouring the new graduates will be highlighted by a fashion show with fashions from Mr. Smith's Boutique. For more information, contact Mrs. Jane Rogers, 11 Lyle Place, Kitchener, Ontario.

Elaine Good

New Brunswick

- For a relatively small dental hygiene association, the enthusiasm is really great! National Dental Health Week was the big project in February when we had a drive to dentally impress and motivate the public of New Brunswick. Activities and projects included poster displays in shopping malls involving school children's art, private dental office displays on various facets of dental health, proclamations of Dental Health Week by interested city mayors, television and radio interviews as well as "on the spot" dentally motivating announcements.
- Dental Public Health in New Brunswick is also in the "news" with the arrival of two mobile dental facilities. One is a motorized van which employs one dentist, one dental hygienist and two dental assistants. It will visit the smaller, more remote areas of need while the other facility will go to the largely populated areas for periods of two to three months. This clinic will employ a dentist, two hygienists, two assistants and a receptionist who will provide complete dental treatment for Grade One children who live in school districts where there is not a practising resident dentist.

Mary A. Pelletier, NBDHA President

Quebec

- It is expected that approximately 150 students will graduate from the six schools of dental hygiene at the collegial level in Quebec this year. In addition, there will be 7 graduates from the program at the University of Montreal.
- Two clinical facilities for dental hygiene students are to be opened soon, one at the Hospital Honoré Mercier of Ste-Hyacinthe and the other one at the Hospital of Trois-Rivierès. In addition, there is a clinic at the Centre Hospitalier de l'Université Laval which was opened last May and another one is expected to be established at the Hospital Ste-Justine in Montreal.
- The QDHA has received approval from the Office des Corporations in Quebec to form their own corporation.

Louise Lefebvre, Quebec Delegate

Alberta

- At a general meeting on October 25, 1974, a new structure was approved for the ADHA which turns over to the Board of Directors the complete legislative and governing powers of the provincial body.
- The Dental Health Committee, working with the ADA counterpart, continues to implement their ongoing program with major focus on demonstrations to Brownie and Cub groups.

Linda Risdon, Alberta Delegate

Manitoba

- Dental hygienists attended the Manitoba Dental Convention on January 17 and 18. Dr. Ken Olson, a renowned psychiastrist, spoke on "Communications" between staff and with the public.
- The Manitoba Dental Auxiliaries Committee is trying to categorize all dental auxiliaries presently working in Manitoba as well as look into the possibility of licensing all auxiliaries working intra-orally.
- The Manitoba Chapter of the American Society of Preventive Dentistry has been formed. Many hygienists, assistants and dentists have joined and hope that the chapter proves to be a success.
- The dental library at the University of Manitoba is in jeopardy of being incorporated with the medical library and letters of support were sent to those concerned with maintaining the libraries separately.
- A student from the School of Dental Hygiene will be invited to attend the MDHA Executive meetings as a non-voting member to promote and encourage communications between the Association and its Junior Members.

Diane Girardin, Manitoba Delegate

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L'HYGIENISTE DENTAIRE DU CANADA

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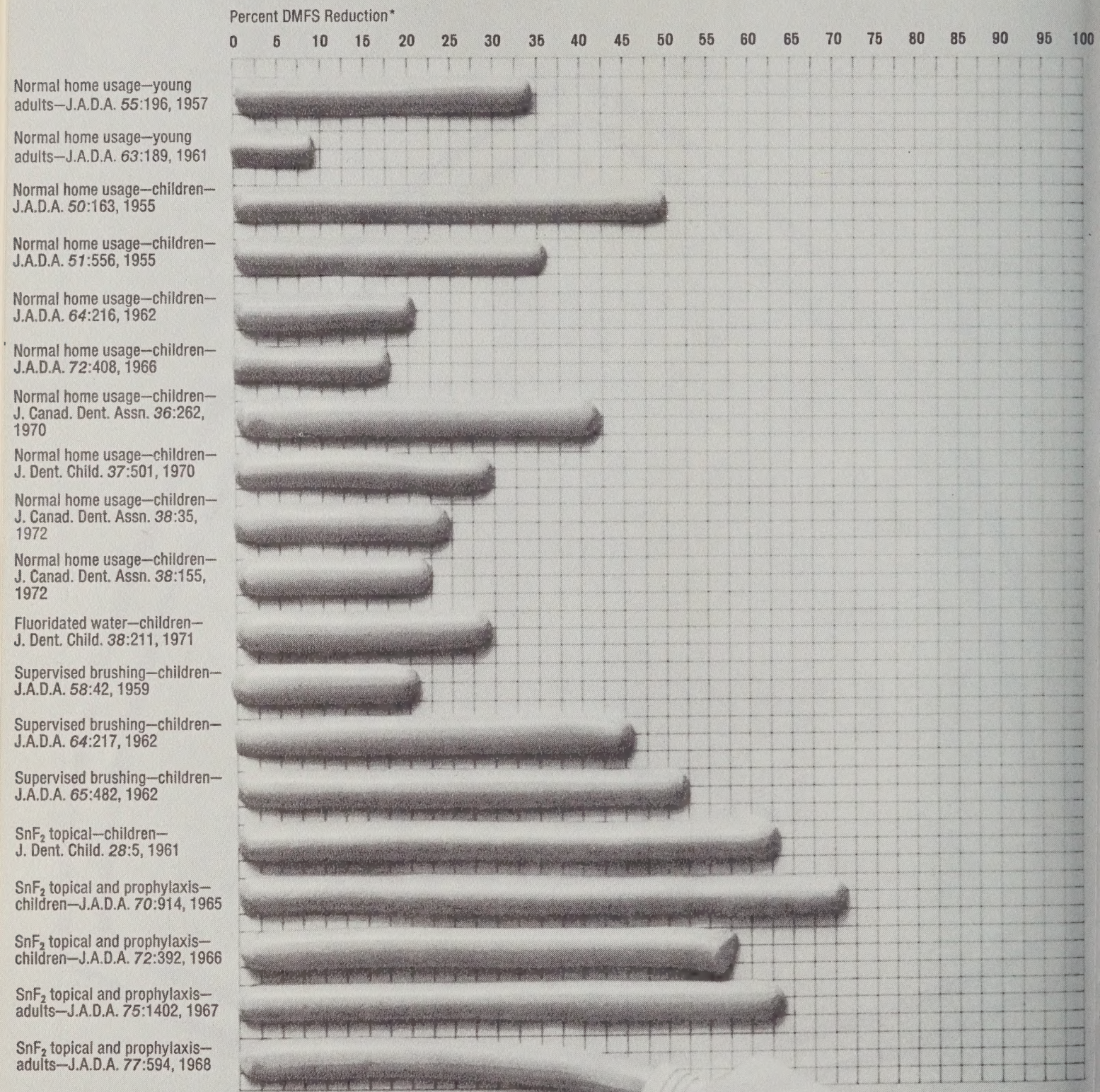

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CDHA BULLETIN ACHD

nmer 1975 Eté VOL. 9, No. 2

REPRESENTATIVE TO INTERNATIONAL SYMPOSIUM SELECTED

Joan Voris of Vancouver, B.C. has been selected by the CDHA Board of Directors to represent Canada at the Fifth International Symposium on Dental Hygiene to be held in Tokyo, Japan in July, 1975. She will be presenting a paper on Dental Hygiene in Canada and will also be representing the CDHA at the meeting of the International Liaison Committee. Joan, who is the Supervisor of the Program of Dental Hygiene at the University of British Columbia, is actively involved at both the provincial and national levels and is currently serving as Chairman of the CDHA Education Committee as well as one of the British Columbia delegates to the CDHA Board of Directors.

CDHA BY-LAW REVISIONS

Revision sheets containing the amendments to the CDHA By-laws approved at the 1974 Annual Session were mailed to members with the Winter 1974 issue of the journal in late December. If you did not receive your copy of these revisions, please notify CDHA Constitution Committee Chairman, Mrs. Sharon Taylor, R.R. #1, New Germany, Nova Scotia B0R 1E0.

MINI-CONFERENCE ON DENTAL AUXILIARIES

The CDA Council on Health Care held a Mini-Conference on Dental Auxiliaries at the Toronto headquarters, May 5, 1975. This conference was conducted by Dr. Ron Dickson, Chairman, Council on Health Care, and each provincial dental association, the CDHA and the CDNAA were invited to send representatives. The agenda focussed on the review of provincial positions relating to dental auxiliary education, licensure and practice as well as the development of a nationally acceptable training model. Those in attendance endorsed a career options system for training dental personnel and their recommendations will be presented to the CDA Council on Health Care for consideration.

Joan S. Voris,
CDHA Representative

NATIONAL COMMITTEE ON DENTAL MANPOWER

The third meeting of the National Committee on Dental Manpower (NCDM) was held on May 12 and 13, 1975 in Ottawa. CDHA representatives Carol Kline and Pat Johnson attended. Of primary concern at the meeting was a discussion of the CDA Accreditation Program of Dental Personnel. Dr. W.G. McIntosh, CDA Executive Director, and Dr. M.A. Rogers, CDA Accreditation Coordinator for the Council on Education, presented an overview of their program including occupational groups covered plus criteria for evaluation, financing and representation on survey teams. The NCDM approved a resolution recommending that the provincial licensing bodies recognize and accept without further examination, graduates from dental and dental auxiliary programs which have been accredited by the Canadian Dental Association.

A report from the Health Manpower Data Bank indicated an excellent response from the dental hygienists to the recent survey. Within two weeks after the first mailing, a 65% return had been received. The second mailing is scheduled for the end of May. NOTE: If you have not completed and returned your Statistics Canada blue survey form yet, DO IT NOW! If returns are completed in the immediate future, some of the data will be ready for presentation at the Annual Session of the CDHA Board of Directors in August.

The NCDM will be making available upon request the following reports:

1. Selected Bibliography on Health Manpower Studies in Canada
2. 1975 Health Manpower Inventory (to include information on numbers of dental hygienists, dental assistants and certified dental assistants by province)
3. Survey of Provincial Acts Governing Dentists and Dental Specialists
4. Survey of Categories of Dental Auxiliaries in Canada by Province
5. Survey of the Distribution of Dental Manpower in Under-serviced Areas in Canada

The highlight of the meeting was a discussion with a representative from the Department of Manpower and Immigration concerning the refusal of immigration authorities to accept dental hygiene as a needed occupation, a problem that had been identified by the CDHA representatives. As a result of this discussion, a mechanism was outlined which will ensure that dental hygienists who apply for landed immigrant status and who fulfil all necessary immigration criteria, will be granted permission to enter Canada. In immigration jargon, dental hygiene is to be termed a "designated occupation" and all immigration officers are to be duly informed. The CDHA Manpower and Utilization Committee will be working with immigration to expediate this matter.

Carol Kline, CDHA Representative to National Committee on Dental Manpower

POSSIBLE HAZARDS SUSPECTED WITH NITROUS OXIDE

It has been known that dental personnel can be exposed to high concentrations of nitrous oxide during administration of nitrous oxide-oxygen sedation in the dental operatory. Because of potential risks to pregnant dental personnel, two scientists have recommended re-examination of policies on personnel exposure.

Writing in the August issue of the **Journal of Oral Surgery**, published by the American Dental Association, two researchers report on their studies of dental operatory nitrous oxide concentrations, which can be higher than concentrations found in many hospital operating rooms.

The authors point to these reasons to suspect possible hazards:

— Chronic exposure to high concentration of nitrous oxide has been shown to cause bone marrow depression.

— Recently, levels of 1,000 ppm have been shown to have lethal effects on embryos in pregnant rats.

— Recent surveys suggest a possible link between chronic exposure to nitoxide and the development of miscarriage or congenital malformation in pregnant nurse anesthetists.

Other studies have shown that in a hospital operating room, the concentrations of nitrous oxide average around 1,000 to 3,000 ppm in the inhalation zone of the anesthesiologist and from 330 to 550 ppm in the inhalation zone of the surgeon.

The authors point out that higher flow rates than those used under usual operating room conditions are generally administered in the dental operatory,

Continued . . .

and dental operatories do not have air conditioning systems with the high air-turnover rate of operating room systems.

After sampling nitrous oxide concentration in six different operative procedures ranging from 20 to 90 minutes duration, the scientists found that the dentist received the highest concentration, an average peak of 6,767 ppm reached after 60 minutes. The dental assistant levels also were high, an average peak of 5,867 ppm after 60 minutes. Concentrations in the peripheral room air were somewhat lower.

The authors conclude that their findings are of particular concern to pregnant members of the dental team: "In consideration of the high rate of spontaneous abortion among female operating room personnel and the known lethal effects of 1,000 ppm of nitrous oxide to embryos in the Long-Evans rat, it seems prudent to re-examine the policy of exposure of pregnant dental personnel in the operatory and its environs during administration of nitrous oxide-oxygen sedation."

The research was conducted by Dr. Robert I. Millard, resident, department of oral surgery, University of Michigan Medical Center, Ann Arbor, and Dr. Thomas H. Corbett, associate professor at the medical center and research associate, Veterans Administration Hospital, Ann Arbor.

ADA Bureau of Public Information

NUTRITION CANADA PROVINCIAL, INDIAN AND ESKIMO REPORTS RELEASED

National Health and Welfare Minister Marc Lalonde has released reports describing the nutritional status of the population in each province and of Indians and Eskimos. These reports represent the second stage in the interpretation of data collected in the Nutrition Canada National Survey.

The reports contain detailed information concerning the dietary intakes of vitamins, minerals and other nutrients and the results of clinical examinations and bio-chemical tests on blood and urine.

In agreement with the conclusions of the National Report of the Nutrition Canada Survey, the detailed reports indicate large numbers of Canadians of all ages are overweight. Low iron stores were common but iron deficiency anemia was not. A small proportion of all age groups in provincial populations had low blood levels of vitamin C but no clinical signs of scurvy.

On the basis of a preliminary examination of the data, the national overview had suggested widespread occurrence of protein deficiency in pregnant women. Detailed examination of the data, and application of the proper standards has revealed that protein deficiency occurs in a much smaller proportion of pregnant women than originally feared.

The significance of a rather high incidence of low blood folic acid levels is not yet known. There was no bio-chemical evidence of vitamin D and calcium deficiencies, although average intakes of these nutrients by infants, children and adolescents were sometimes less than adequate.

There were few interprovincial differences, a noteworthy exception being the prevalence of enlarged thyroids. This condition, not related to iodine deficiency, was seen more frequently in the western provinces and Newfoundland than elsewhere.

Indians and Eskimos had more severe nutritional problems than did other Canadians. The diet of many Eskimos in all age groups lacked vitamin C, their blood vitamin C levels were low, and bleeding gums, suggestive of scurvy, were common. The lack of vitamin A in the diets of Eskimos and Indians also represented a potential problem.

Provincial nutritionists have already been briefed on the content of the reports, which will be of particular value to their governments in planning remedial programs in accordance with provincial priorities. The federal and provincial governments are cooperating in nutrition programs in Alberta and Manitoba; discussions between a number of other provinces and the federal government are underway. The federal government has announced plans to require mandatory fortification of staple foods with appropriate essential nutrients, and to require restoration of the nutrient contents of processed foods to pre-processing levels.

In response to the National Report of the Nutrition Canada survey, instructions have already been given that multi-vitamin-mineral tablets be provided to all persons served by the Indian Health and Northern Health Programs, unless there is clear evidence from a review of the diet that it is not necessary. The Department will be studying closely the reports on the nutritional status of the Indians and Eskimos, to determine if further changes may be required.

Additional programs flowing from the results of Nutrition Canada are underway in the Department. An expert committee on diet and cardiovascular disease is expected to report its findings by this summer. These will provide the basis for a nutrition education program relating diet to heart disease, scheduled to begin later this year. A revision of Canada's Food Guide, a widely used basic aid to nutrition education, has been discussed with provincial nutritionists, and should be available for distribution by autumn. The Canadian Dietary Standard, which sets out the needs for various nutrients by Canadians of all ages, has been revised by an expert advisory committee. Its report — necessary in order to ensure a firm scientific basis for food fortificatin programs — is expected by late spring.

The Nutrition Canada Dental Report and the Report on Food Consumption Patterns now are being prepared.

Since obesity is the biggest single nutritional problem of Canadians, special attention is being given to the development of programs which will motivate Canadians to alter sedentary lifestyle patterns, pay increasing attention to physical fitness, and adopt proper eating habits.

Health and Welfare Canada

NUVA-LITE ACTIVATOR LIGHTS NEED SHIELDING

Dentists who have purchased Nuva-Lite activator lights are being urged to modify the devices by inserting four pieces of shielding which will block unnecessary ultraviolet light. The shieldings will be provided by The L.D. Caulk Co., the manufacturer.

The Nuva-Lite is used in the application of Nuva-Seal pit and fissure sealant and Nuva-Fil composite restorations. These two products were provisionally accepted by the ADA Council on Dental Materials and Devices, and Nuva-Fil now has been fully accepted by the Council.

Early in 1974, the Council learned there might be unnecessary emission of ultraviolet light from the device. The company was requested to submit more data on these emissions. This information showed there was some emission of ultraviolet light not necessary for the curing of the materials which was directed toward the operator through the louvers of the device's housing and toward the patient from the bend of the quartz rod.

Although the Council has determined that there has been no harm proven to the operator or the patient through the use of the Nuva-Lite activator light, the Council requested the firm to develop appropriate shielding to block the light, and the company agreed to do so. At the same time, the Council was aware that the Food and Drug Administration was pursuing a parallel course. In the fall of 1974, the company demonstrated to the Council prototypes of the modified light. In January 1975, the FDA told the Council that the modification met with the agency's approval.

ADA officials have been informed that all Nuva-Lite activator lights now leaving the factory have been appropriately shielded and that a letter is being sent by the firm to all dentists so that the instruments which previously have been sold also can be modified.

Bulletin, American Dental Association

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Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient ête adressér aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

L'adresse permanente de l'Association des hygiénistes dentaires du Canada est la suivant: P.O. Box 8252, Ottawa, Ontario K1J 3H7.

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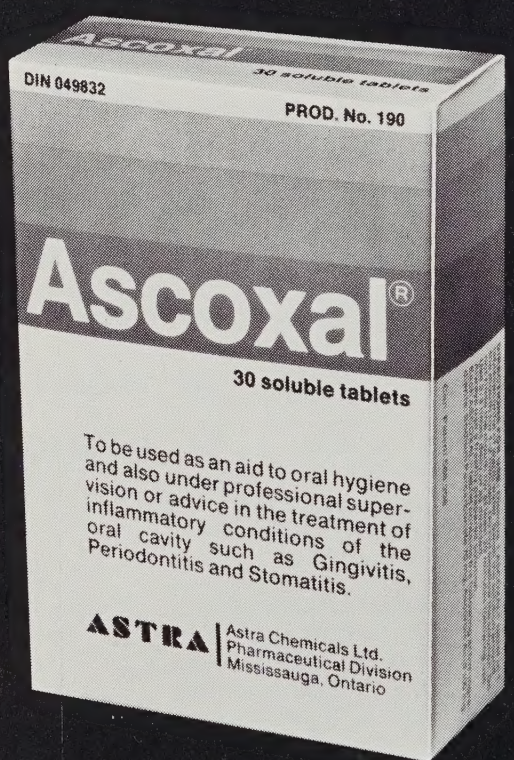

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WOLF CUBS LEARN THAT TEETH CAN LAST A LIFETIME

V. ELIZABETH CAVERLY

The following article is a summary of a preventive dental program which was developed and presented by the author as her project for the Community Dental Health Course, second year dental hygiene at the University of Manitoba.

In January of 1975, a trial preventive program was presented to the 83rd St. Peter's Wolf Cub Pack. During the program the boys examined the "why, where, when and how" of preventing oral disease and participated in a series of activities designed to help them gain an understanding of the value of good oral hygiene habits.

The objectives of the program were to help each cub gain:

1) the understanding that dental disease can be prevented and that teeth can last a lifetime;
2) the undertstanding of the relationship of good dental health to general health;
3) the desire to present a better appearance by proper care of the teeth and willingness to show teeth when smiling;
4) the improvement of habits that assist in the maintenance of excellent oral hygiene and thus, in the reduction of decay; and
5) the understanding that each person must be responsible for his own primary preventive care and that it is this daily care which will benefit him most in maintaining good dental health.

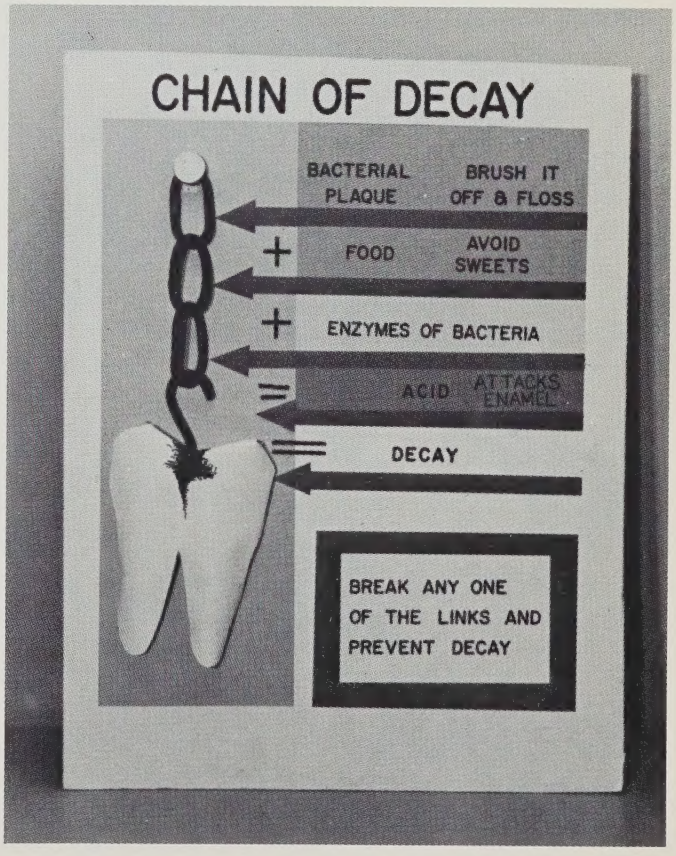
Meetings

The first of four meetings started with a general discussion on the prevention of dental disease and set the goal of keeping healthy teeth for a lifetime. We discussed four important functions of teeth — chewing, speaking, appearance and holding space for permanent teeth, and talked about the four different types of teeth and how they were shaped to do their job. We examined models of each type of tooth and compared them to the teeth in a beaver jaw. The boys examined the shape and size of extracted teeth, noting any carious lesions that were present and that tooth enamel is harder than bone.

Before closing, three activities were presented as possiblities for active participation of the cubs in the preventive program. It was decided to hold a poster competition and the two best posters were to be displayed at the Festival of Life and Learning at the University of Manitoba. In addition, some of the cubs decided that they would visit a kindergarten class to tell them about the care of teeth.

Second Meeting

The second meeting was organized to focus on the **cause of decay**. A large poster titled the "Chain of Decay" was used. Each link represented an ingredient which must be present if decay is to progress. The first link is **PLAQUE** which "houses" the bacteria. The second is **SUGAR** which is supplied by the diet. The third link is the **BACTERIAL ENZYMES** which enable the bacteria to convert the sugar into **ACID**, the fourth link. The acid attacks the **ENAMEL** of the tooth. How do we break the links to prevent decay? Proper brushing and flossing can disorganize and remove plaque, fermentable sugar in the diet can be limited, enamel can be strengthened through treatment with fluoride, and regular dental check-ups can detect early signs of trouble.



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Ever wonder what you have to do to get a little attention from your dental supplier. Could be that business is so good that he doesn't need you . . .then again, maybe he's forgotten the importance of customer "service".

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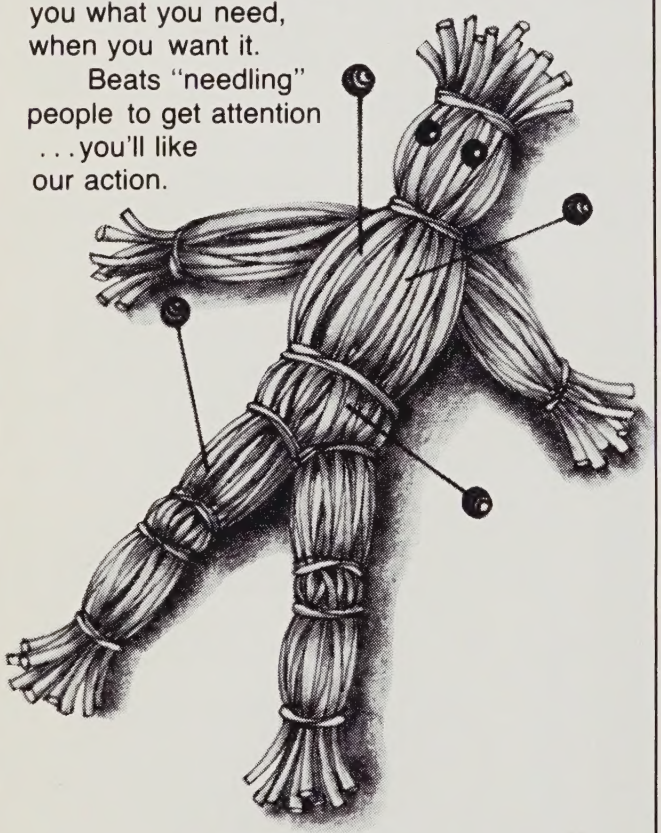

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Each "Six" set up their own experiment to examine some of the information discussed:

1) Blue Six did an oral culture plate and a sterile swab culture was prepared for comparison. These were incubated at 37 degrees Fahrenheit in the medical laboratory and were examined the following Monday.
2) Red Six put an untreated egg into vinegar (acid) and observed bubbles rising in the liquid almost immediately as the acid attacked the minerals in the egg shell.
3) Green Six put an egg that had been treated with fluoride (soaked one week) into vinegar. No bubbles were seen rising from this egg indicating that the fluoride coating did protect the shell.
4) Tawny Six put an extracted tooth into coke.
5) Yellow Six put an extracted tooth into vinegar to see the effect of acid on tooth enamel.

Third Meeting

At the third meeting we examined the posters that had been entered in the competition. Some very good ideas were expressed. In addition, the results of the experiments were examined and the following observations were made:

1) the oral culture showed many colonies of bacteria; the sterile plate showed no growth.
2) there was no shell on the unprotected egg.
3) there was almost no shell on the fluoride treated egg. (Note: These had been in acid one full week. We re-did this experiment and found that shell was removed from the untreated egg in thirty hours while the fluoride treated egg still retained an intact shell although it was thinner.)
4) coke had stained the enamel and cementum and while it seemed slightly less hard, the tooth was not changed as much as the one in acid.
5) the enamel of the tooth soaked in vinegar was very eroded and chalky. It would have been interesting and meaningful to have soaked an extracted tooth in sugar water. There would have been no change in the enamel thus allowing for the conclusion that one must have both BACTERIA and SUGAR to produce the acid which initiates tooth decay.

There followed a discussion on how we can best care for our teeth. Brushing methods, flossing, fluorides and good nutrition were discussed and related to breaking the links in the "Chain of Decay". Break any link and you can prevent decay.

Fourth Meeting

The fourth meeting covered "What we can do and how we do it." Tooth brushing and flossing were demonstrated. Disclosing tablets were used and an examination made to determine which areas had been missed in the at-home brushing. The importance of having a routine system of brushing was emphasized because it reduces the chance of missing areas. The angle of the tooth brush placement insures the stimulation of gingival tissue and the cleaning of enamel at the gum line. Floss is used to clean off the plaque along sides where each tooth contacts its neighbour, a very favorite place for plaque and decay.

The disclosing and brushing were done with the cubs in their own "sixes". The sixers helped by dispensing the disclosing tablets. Each group had a mirror set up on a chair and a flashlight so that the missed areas could be viewed. Each six had one leader who helped each boy to check the effectiveness of brushing and to modify technique where needed. Then one six at a time was given fluoride toothpaste and practised brushing at the sink in the washroom. The participation of the cubs in all aspects of the program was good. Isabel Graham, the Cubmaster, and the other leaders were most cooperative and helpful.

During Dental Health Week arrangements were made for four of the boys who had entered the poster competition to visit the kindergarten at Montrose School. While there they shared what they had learned at the dental health sessions at the cub meetings. By so doing, the four boys were able "to do a service in the community" which is one of the requirements to earn their blue star. The kindergarten children appeared to enjoy the program the boys had prepared. The boys described the posters and demonstrated how the beaver brushed his teeth. We disclosed one of the cub's teeth and he showed the class the area that he had missed. He then demonstrated how the brushing should be done.

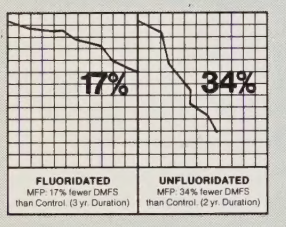
Conclusion

I am quite convinced that the cub scouts are an excellent target group to receive preventive dental information. Their ages range from seven to eleven years. At this age they are beginning to think for themselves; they are not too involved with other commitments; they are energetic, enthusiastic, curious and questioning; they have the manual dexterity; they will take hold of a project and follow it through. The scouting program is built on learning to work and to play with others, with emphasis on spiritual and physical well-being.

From this experimental program, an outline of suitable requirements for earning a dental health badge has been drawn up and will be submitted to scout headquarters with the request that it be considered for inclusion in the merit badge program. Along with this will be sent a suggested badge design, done by Mr. A. Domokos of the Art Department of the Dental College, University of Manitoba. Our motto is "Healthy Teeth for a Lifetime."

Four good reasons to recommend Colgate with MFP.*

1. Colgate with MFP reduces new caries incidence.

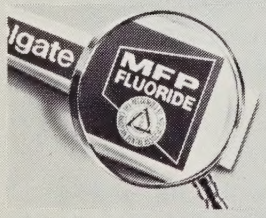


Almost all fluoride dentifrices are made with stannous fluoride. Colgate is the only one made with monofluorophosphate. Colgate with MFP has been tested in clinical studies adding up to 19 years among 4,234 children in eight cities.

In five of these studies, control dentifrices were used and Colgate with MFP resulted in reduction of new caries ranging from 17% to 34%.

In two of the three other studies against a leading fluoride dentifrice, Colgate with MFP resulted in a reduction of new caries of 11% and 34%, while in the third test, Colgate with MFP was found equally effective.

2. Colgate's advanced fluoride formula is different.



Of the leading fluoride toothpastes, only Colgate has MFP fluoride — a sodium monofluorophosphate formula that appears to convert tooth enamel apatite into fluoropatite, in a way similar to the topical application of fluoride. The effectiveness of Colgate with MFP in combating new caries may be due to the close chemical relationship of MFP and apatite.

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It is widely recorded in the literature that certain fluorides in aqueous solution and in dentifrices cause brownish-blackish discolouration of teeth because the stannous anion can combine with many cations to form highly-coloured compounds.

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Canadian Dental Association

*T.M. Reg'd Colgate-Palmolive Limited

Throughout life: THE NEED FOR CONTINUING EDUCATION

GEORGE S. BEAGRIE, D.D.S., F.D.S.R.C.S., F.R.C.D.(C)

Dr. Beagrie is Director, Division of Postgraduate Dental Education and Chairman, Division of Clinical Sciences, Faculty of Dentistry, University of Toronto.

It is right and proper that the education of a profession be under the constant scrutiny of its members and much effort has been made to keep dental education abreast with developments in other health fields. Over recent years the subject of continuing education in dentistry has been increasingly apparent. Interest has multiplied considerably and the more so because politicians are now placing pressure on the health practitioners to maintain their standards. Thus, in 1964, we find The (Hall) Royal Commission on Health Services recommending: "that to help ensure that physicians in practice maintain their level of competence, medical schools inaugurate or expand their programme of continuing medical education . . ."(1) The same recommendation was made with respect to dentists.

At another level of government the Report of the Committee on the Healing Arts in Ontario recommended in 1970 "that a program for ensuring continuing competence be implemented for physicians and that periodically, perhaps every five years, every physician in Ontario be required to present to the College of Physicians and Surgeons of Ontario a certificate from a medical school in Ontario stating that he has maintained a satisfactory level of competence in the areas of medicine in which he ordinarily practises."(2) Similar recommendations were made for dentists.

The profession has always recognized the need for continuing professional education throughout life. Indeed such constitutes one of 10 objectives in the Report on Dental Education of the World Health Organization.(3) Owing to the different backgrounds of individuals who seek continuing education it is difficult in general terms to delineate precisely the level of education required.

One major factor which emerges, however, is that only from a suitable undergraduate training can effective continuing education emerge. The corollary is also true and the two are therefore inexorably united.

The undergraduate curriculum is now under scrutiny and change in Canada,(4) and other parts of the world.(5, 7) The constant theme expressed by most of these articles is for undergraduate courses to be more educational in content so that a dentist will graduate an educated man. The medium of continuing education will then be expected to provide the further training necessary to meet individual needs. Such an approach, if implemented, would then release time within the crowded undergraduate curriculum and would facilitate the individualizing of undergraduate programs.

Development of Departments of Continuing Education

Reference has already been made to political pressures for continuing education. As a result, a few years ago, several states in the USA enacted legislation demanding continuing education as a requirement for relicensure of dentists.(8) This year, the provinces of Manitoba and Alberta have also made these demands and other provinces are considering similar action. Need for facilities to meet these growing pressures will be urgently required.

If this is coupled with the idea expressed that continuing education is the instrument of change within the undergraduate curriculum and the means of updating graduates "in toto," there will have to be a major undertaking by governments and universities to form and staff departments of continuing education across the land. It would seem timely for dental schools to exert pressure now to develop continuing education departments as major growth points within their universities.

The concept of dental education as a preparation for life is being replaced by that in which education is coextensive with work. When these facts are analyzed in association with the information explosion of our modern scientific age, need is even more telescoped.

Another interesting fact is that at the same time as society, politicians and educators are discussing and rationalizing their approaches to professional education, youth is in revolt. More specifically that part of youth which is the recipient of our educational programs. The main reason for the "revolt" would seem to be due to isolating the students' education from the real life of society.

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The Director-General of UNESCO, at a recent meeting on adult education (Tokyo 1972) had this to say, "Today, professionals in formal education are wondering whether, as some have suspected for a long time, adult education may not, after all, offer certain solutions to the problems that they are unable to solve in the framework of schools and university education. Thus it is that the crisis in education has brought to the fore a type of education hitherto considered parallel and peripheral which suddenly appears as the focal point . . . (9)

Task Force on Continuing Education

The Canadian Dental Association, aware of the necessity to examine continuing dental education, arranged and developed a conference on the subject during September 1972. Many proposals were presented at that conference to promote the subject within Canada. The Education Committee of the Canadian Dental Association, at their meeting in April 1973, formed a task force to follow up and make recommendations regarding continuing education for Canada. Part of the task force's work has been to collate information from the various societies and develop a questionnaire to indicate "need" as seen through a random sample of 10 per cent of the membership. The complete results of the questionnaire have not yet been analyzed but some trends are apparent, viz., almost all dentists replying considered that continuing education was necessary to practise good dentistry. Another question with an interesting result referred to continuing education being made mandatory to maintain licence to practise; 69 per cent answered "yes" and 31 per cent said "no".

Responsibility for Continuing Education

Continuing dental education is considered the manner by which a standard of care for the public is maintained to a required level. In some instances it is necessary to implement this by compulsion.

The Canadian Dental Association Conference established that no longer can continuing education be designated a "stepchild" of dental education.(10) Need was established for national guidelines to be set up to ensure that national standards of continuing education be formulated.

Professional associations at provincial and national level have to accept the responsibility for accrediting and arranging for educational courses. The role of the associations in this direction will greatly expand in the future. It is hoped that learning resource centres will be developed in conjunction with all interested bodies.

The individual, however, must remain responsible for the allocation of time and energy to meet his or her obligations to continuing education.

Role of Governments

Governments must also concern themselves with the financial obligations to provide support, both indirect and direct. In an indirect sense, Government must give tax incentives to participants of continuing education courses. Direct moves, however, will be required to finance centres through which an update of knowledge can be made effective. Such action is well illustrated through the present system adopted in the United Kingdom in which Regional Postgraduate Centres have been organized for the express purpose of this form of education of health science personnel.(11)

Although the dental environment is still considered by many to serve as the major centre for courses in continuing education, there is much to be gained from a departure from this philosophy. The teaching hospital setting, with the environment which it engenders, and the interaction with other health science and professionals which it produces are all beneficial to stimulating the individual dentist to achieve his optimum. Indeed it would seem to present the best in continuing education — viz., stimulus without compulsion, reward in a spiritual sense rather than in materialism. The profession in several countries of the world is using the community hospital as a continuing education facility since it recognizes that, by comparison with hospitals, dental schools are sparsely distributed across the land. In addition, the use of the community hospital gives more impetus to serving the needs of the public in that community and therefore provides a better service.

Role of the Canadian Dental Association

The national organization has accepted, in conjunction with provincial associations, that their major role should be the provision of sophisticated programs of continuing education such as audio and video cassettes. In this regard it is interesting to note that the audio cassette program now running into its third year has been accepted as fulfilling some of the necessary requirements of continuing education in the provinces of Manitoba and Alberta. In both of these provinces continuing dental education is a requirement of all dentists for the renewal of licence. In Manitoba 250 points of continuing education are required over a period of three years. Points are awarded for refresher courses, symposia, study clubs and conventions. The Canadian Dental Association cassette program is credited with providing 12 per cent of all the points needed.

Alberta has similar legislation. In this province 500 points have to be procured within a five-year period, and here 15 per cent of the points can be earned through the Canadian Dental Association cassette program. Other provinces are considering similar legislation and thus the provision of facilities for these large numbers of dentists has already become a major undertaking.

One essential role of the national association will be the development of guidelines for continuing education and the creation of a format for major programs. It is probable these will have to be accredited. The formation of a uniform credit points

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system for the various continuing educational activities would seem appropriate in order to give help to the corporate bodies and provide reasonable uniformity. The national body should become responsible for the provision of lists of personnel available and suitable for given programs, and co-ordination of courses and content should also fall under their aegis.

A recent publication(12) indicates a need for some association to be responsible for the provision of courses of instruction which would allow upward mobility of personnel into different categories of the work pattern. As an example, the dental assistant should be able to expand her duties to become a dental hygienist, while the dental hygienist might become a New Zealand or Saskatchewan dental nurse, with the necessary courses of instruction. Such courses would be available for this purpose. The development of guidelines to enable this mobility to take place would seem to be the role of the national association.

In conclusion, it must be assumed that the national association will act as the liaison body between the profession and government and work for the development of funds for the promotion of experimental models for professional continuing education, so that the future needs of this all important aspect of dental education can be permitted to grow with vigor.

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Daphne Cringan and Dianne Dyer, Convention Co-Chairpersons, extend to you an invitation to attend the 12th Annual CDHA Convention in St. John's, Newfoundland. The Arts and Culture Centre, adjacent to Memorial University of Newfoundland, will be the headquarters of Convention '75, August 17 to 20. The Centre offers excellent acoustics in each of the half dozen large theatres which will house the program. There is an art gallery with a permanent local collection as well as interesting visiting collections. Along with a restaurant, it adds up to a pleasant place to spend the day. Convention registration and tickets to all functions will be available in the Centre.

ADVANCE REGISTRATION

A Convention Registration Form has been sent to all CDHA members. This form is to be completed by those desiring advance registration and/or accommodation in St. John's during the forthcoming convention. Please complete the form and return it with your cheque made payable to the Canadian Dental Hygienists' Association to: Sandra Till, #102 - 249 Talbot Avenue, Winnipeg, Manitoba R2L 0P7 **Pre-registration deadline is July 15, 1975.**

ACCOMMODATION

Arrangements have been made for accommodation in the residences at Memorial University which is located close to the heart of the convention and the activities taking place at the Arts and Culture Centre. The residences are modern, have very well kept rooms with washrooms on every floor. There are no private baths, however. Porters will be available to help with luggage and daily maid service is included.

CDHA CONVENTION AUGUST 17 TO 20, 1975

CDHA CONVENTION '75
"DEVELOPMENTS: INWARD AND OUTWARD"
Tentative Program

SUNDAY, August 17 Afternoon and Evening	**Registration:** Members and guests must register at the Arts and Cultural Center at Memorial University before being admitted to sessions. The registration fee includes the costs of the luncheons as well as the entertainment and snacks for Sunday evening. Pre-registration is encouraged and the completed registration form should be sent along with a cheque to Sandra Till, #102, 249 Talbot Avenue, Winnipeg, Manitoba R2L 0P7. **Entertainment and Snacks**
MONDAY, August 18 Morning	**Registration:** Arts and Cultural Center at Memorial University. Bus tours will be available to enjoy the scenery of unique St. John's. **Lunch:** Woodstock Colonial Inn, a lovely country setting 15 minutes from the Arts and Cultural Center.
Afternoon	**Forum:** "Dental Hygienists are People Too", a panel of dental hygiene educators encouraging hygienists to be responsible to themselves as well as to society.
Evening	Tickets available for various entertainments.
TUESDAY, August 19 Morning	Program with Canadian Dental Nurses and Assistants Association. **Table Clinics:** **Speaker:** "Periodontics in General Practice", Lt. Col. Andrews, Canadian Forces Dental School. **Lunch:**
Afternoon	**Presentation:** "The Career Options System — What's It All About?", Joan Voris and Joan Conklin, Vancouver, B.C. **"Mug-up":** A surprise finish to the day with the assistants!
Evening	Tickets available for a lobster dinner.
WEDNESDAY, August 20 Morning	**Speaker:** "The Changing Field of Dental Auxiliaries Throughout North America", Dr. Eric Spohn, Assistant Dean, College of Allied Health Professions, University of Kentucky. **Lunch:** Battery Motel, near the famous Cabot Tower overlooking the harbour and St. John's.
Afternoon	**Speaker:** "An Arctic Venture in Dentistry", Dr. Keith W. Davey, Director, School of Dental Therapy, Fort Smith, North West Territories.

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CHARLES L. HUGHES, Ph.D.
and ROBERT M. ANDERTON, D.D.S.

Dr. Anderton is in general practice, 1903 Walnut Plaza in Carrollton, Texas 75006.

Dr. Hughes is a consulting psychologist and Director of Personnel and Organization Development of the Texas Instruments Inc.

How often have you read that you should "change patient behavior"? Or been injected with guilt feelings because "patient education relating to dental health has been far too ineffectual in that . . .it has failed to bring about an improved attitude and a change in behavior in society"?(1) Considering the relatively little time dentists see a patient out of the person's total existence, it is no surprise. But why do dentists believe they must change behavior?

Why feel frustrated when a patient behaves differently than you about the value of dentistry? Rather, could we not accept that some people hold the same, and some quite different values about dental services than the dentist — as they do on so many other subjects? Dentists have traditionally been taught to accept as patients only those who hold values for dentistry that the doctor believes they should have — and to turn away all others or deny treatment until their behavior and attitude change. Such an attitude requires either surplus patients or significant rationalization.

Why not stop trying to change patient behavior and begin to accept patients as they exist, with whatever values they happen to hold about dentistry?

It is a purpose of this article to relate values that people hold for dentistry as patients. With the development of these concepts it will be possible to relate specifically to practice management the opportunities for improvement and satisfaction that come from accepting people, and accepting oneself, as human beings exist — not as a dentist would like them to exist.

A System of Values for Dentistry

In searching for a meaningful way to describe the varieties of values people may hold for dentistry, the extensive work on value systems (2) and the practical management applications were adapted by the authors. Since the inception, nearly 200 dentists have participated in the continuing evolution of the concepts and applications in seminars and with psychological research instruments. Only the results and practical aspects will be presented here.

Our approach begins with the concept that people are found at all levels of psychological existence. There are many influences on each stage of existence that a person reaches during his lifetime — the early years with the parents, peers, siblings, school teachers, and everyone else who has existed within the lifespace of the individual. During these stages of development, attitudes are formed about many key aspects of life.

Although some individuals may develop throughout a lifetime, the majority of people stop their development when their values are compatible with the environment in which they exist. Once consolidated, they continue to exist that way, regardless of changes in the world or the best intentions and behavior change techniques of the dentist.

Our work is based on seven distinct value systems,(3) each representing a state of psychological existence and each with a unique value system for dentistry.

System 1 — Reactive

These are people who have no values, whatsoever and are capable of only a reactive mode of behaviour. This system includes infants, the senile, or those who have had brain damage as a result of trauma, shock, chemicals or disease.

There are others who exist in a pyschopathic condition as a result of severe deprivation of their needs as infants so they have failed to develop beyond the infantile stage of values, that is, the absence of values. Rarely will these people be seen in the dental practice unless institutionalized. Many of them are at an advanced age, and dentistry is far beyond their need system or the capability of the institution providing care for them. On rare occasions, should they require dental treatment, it is usually conducted without the involvement of the person, that is, the infant. It is given without regard to how the person feels or how he reacts to it. It is almost entirely on an emergency basis or in preparation for a major restorative program to take place later in life.

While infants may have no values, it is extremely important to consider the value of the parents who may be involved. As far as parental values are concerned, these may be presumed to be the values to be described toward the parents as patients, for these will be projected psychologically upon the infant.

EXHIBIT I

VALUES FOR DENTISTRY	
VALUE SYSTEMS	Human beings exist at different levels of psychological development which find expression in the values they have toward many aspects of life, including dentistry.
1 REACTIVE	For practical purposes, patients will not be seen at this level of psychological development as it is restricted to infants, people with serious brain deterioration and certain psychopathic conditions.
2 TRIBALISTIC	This patient wants to know he is being treated fairly and would like to have the same treatment as others like him. He accepts treatment as long as he can pay for it, and it meets with the approval of his family and peer group. He wants a **good** dentist who tells him what to do.
3 EGOCENTRIC	This individual is usally seen only on an emergency basis. He is a rugged, tough individualist who can stand extreme pain and, consequently, postpones treatment as long as possible. He will likely refuse a prolonged treatment plan as this would tie him down. He responds to an authoritarian dentist.
4 CONFORMIST	This person comes to a dentist because he believes he should take care of his teeth, and it is the duty of everyone to do so. He likes the doctor to be strong, give definite instructions, and determine the treatment plan.
5 MANIPULATIVE	This patient is a "wheeler-dealer." He accepts treatment as it relates to the advancement of his status. He perceives himself as very important and has only limited time for treatment. He may bargain over the fee and manipulate the schedule to his advantage. He expects the dentist to be businesslike.
6 SOCIOCENTRIC	This patient is interested in dentistry on the public health level. He must be treated on a gentle friendly basis and be assured that dentistry is working for the good of all the people. He likes a dentist who is more of a friend than a doctor.
7 EXISTENTIAL	This individual maintains his dental health because it makes his living more enjoyable. He is very much interested in his problem as a problem and less interested in the fee or a procedure. To him a good dentist is one who explains the problem and lets him make the decision for treatment in his own way.

System 2 — Tribalistic

This person derives his value system from the group. In fact, his values do not exist individually. The importance of the leadership of his group is extremely important. Hence, he can be described as acting as a member of a "tribe." The "tribal chieftain" may be a father, grandfather, husband, wife, or a respected friend. In most cases the power figure is a member of the family or a member of the extended family or a person within a tightly knit peer group.

Tribalistic people are concerned with superstition and ritual and hold many ideas which science does not support. In their own perception, however, these ideas exist as fact. Tribalistic persons must be taken as they are. Any attempt on the dentist's part to convince the person his value system is illogical or immaterial is not only to no avail, but is absolutely sure to cause him to avoid further dental treatment, or at least sever the relationship with that particular dentist.

The tribalistic person will receive treatment as long as he can pay for it, even though in our society tribalistic people do not realize many economic benefits. They often have a low educational level (high school or less), and in many cases come from closed ethnic groups or very tight religious groups. Many "2's" have had their early existence in a small rural community or within the ghetto. They work in a blue collar job, are married to a blue collar worker, or are children of the blue collar worker.

The group, or the tribe, is extremely important to the System 2 person. He needs to be protected. He seeks protection and he respects and follows almost blindly the leadership of the tribal chief. The dentist must act as an alter ego to the tribal chieftain and substitute himself in relationship with the patient as a person of respect and leadership.

A System 2 patient wants a good dentist who tells him what to do, assures him that everything will be all right and the outcome of the treatment will be satisfactory, and alleviates his anxiety about paying for the treatment. So the dentist does not feel that he is playing God to this person, he must recognize the fact that he is cast in the role of God, or at least a specialized "God of Teeth." He should not overplay this role, causing the tribalistic person to feel inferior. Rather, he needs to relate to this patient, person to

person, as someone who will help and assure him that "everything will be o.k." The objective must be to reassure the System 2 patient. The dentist should help him maintain his position within his peer group, so that he can continue to have a meaningful tribal relationship and maintain the respect of the tribal chieftain.

It is particularly important at this stage in viewing the values which the tribalistic person places upon dentistry, that the dentist not impose his own values. He should accept the tribalistic person as he is and respect him as an individual and as member of his own unique group. The dentist must also see that the auxiliary personnel treat the System 2 patient with respect, as he is, because of what he is — a human being whose background, beliefs, education and economic system control his values about dentistry and the care of his teeth.

System 3 — Egocentric

At the third level the human being has emerged as a stage where he has rejected tribal values and has become the extreme opposite. No longer does he look up to the tribal chieftain or, for that matter, to the dentist. No longer does he respect the values of the peer group and tribe. No longer does he value a person as an individual of worth, but rather as a rugged individualist.

The egocentric person is generally seen only on an emergency basis. He will not come to see the dentist, thus subjecting himself to the authoritative comments and superiority of another person, namely the dentist, because he has rejected the authority of the tribal chieftain as he has grown beyond the tribalistic stage. He comes because he is in pain; and since he perceives himself as a tough individual who can stand extreme pain, he postpones treatment as long as possible. He will appear suddenly one day in your office, in extreme agony, and expect immediate treatment. Offering this individual a long treatment plan is useless, because he rarely plans ahead in any aspect of his life.

The egocentric holds a series of jobs because he finds it difficult to get along with his fellow workers and his boss. Therefore, he is often discharged, or quits.

The egocentric person presumes that his values are the only values and that they are right in themselves; therefore, he rejects all other values systems. He still respects power, because he also wants to be powerful. It is necessary for the dentist to be rather authoritarian whether he approves of authoritarianism or not, for this is the only effective way to deal with a System 3 person.

Long term involvement is not his life style. He has very fleeting relationships with other people, husband, or wife, even with children. He is always embarking on a new venture, a new job, or a new part of the country.

The dentist will not see very many System 3 patients, not only because they seldom subject themselves to somebody else's care and direction because of the very nature of their value system, but because System 3 people often have many financial problems. Many times they have had conflicts with society.

It will be very easy for a dentist to presume that there is no place in his practice for System 3 patients. But if he really believes that his purpose is to serve people, then he knows the System 3 patient is also a person who at times, even though infrequently, needs his care and help. However, he must help him in a way to which the egocentric can respond. He can have a relationship even though it will be short-lived.

System 4 — Conformist

At the fourth level of existence a person has moved beyond the egocentric again into a stage of complete reversal, just as the System 3 egocentric made a complete reversal from the System 2 tribalistic. System 4 is the largest existing classification of people. Research conducted in conjunction with these theories shows that the majority of dental practices are composed of conformists. Dentists love conformists. Conformists are good patients. They do what they should do, when they should do it, in the way it should be done. They see to it that their children, husband, wife, and all their friends conform to good dental hygiene. The conformist goes to the dentist because he believes he should take care of his teeth. He has learned at an early age through school programs, literature, magazines, television, et al, that it is important for a good, responsible person to take care of his teeth. It is his duty to do this and to see that everyone else with whom he is associated does this.

He likes for the doctor "to be strong and to give definite instructions," as there is nothing more discomforting to a conformist than the absence of rules to conform to. The dentist should be benevolent, slightly autocratic, but warm.

The conformist will be found quite frequently in administrative, white collar, middle income groups. He drives the kind of car he should drive. He dresses as he should dress, in the traditional way. He is very reluctant to make changes in his life style, his appearance, his personal habits or his dental behavior. He watches very carefully the commercials on television, visits his dentist twice a year, or more frequently if the dentist recommends it. He buys the right kind of toothbrush, the right kind of tooth paste, always flosses once a day, and rinses when he cannot brush and buys sugarless gum. He is careful about all his habits, lest he disturb the order of the world or some other human being. He responds to directions for obedience and conformity; and he also expects others to do this.

Not only does he see that his children have good hygiene, he expects the dentist to have a well organized, clean, orderly operation and duty bound auxiliaries. He expects conformity to traditional values on the part of the dentist. How other people exist, he cannot understand or appreciate. He may, however, attempt to force his values upon others.

If a dentist could restrict his practice to System 4 patients, he could have a very enjoyable professional life, with very dutiful patients, followed by dutiful children.

System 5 — Manipulative

The economic system, social structure and political machinery of the world is built by the System 5 for System 5's. This patient is somewhat of a "wheeler dealer" and is often an executive, salesman, professional, or an owner of a small business. His value system, according to our research, most closely resembles that of a majority of dentists. He accepts a treatment plan which is compatible with his value system.

Power, wealth and social status are important to the manipulator. The world is there for him to organize in a way to achieve his ends. He is very seductive in his approach to people and appreciates a business-like atmosphere in the office.

He will accept treatment if he understands what he is going to give in return for what he receives from the dentist. He perceives himself as important, and only has limited time for treatment. He can be very disruptive in the office, because your office becomes his office. He feels he has a right to utilize any of your resources, staff, telephones, as he does at his work place. He may choose to bargain over your fee. He may desire a written contract. He will always try to manipulate your office to his advantage.

The System 5 person does these things because of his value system, and because the daily environment in which he lives reinforces his value system. He is used to influencing others. He is not used to laying on his back with his mouth open, unable to talk, and losing control of the situation while some other person, who possibly makes less money than he does, is telling him what to do. This is a difficult relationship for him to accept. If you can accept the System 5 patient as he is with values similar to the dentist's, and train the auxiliary to tolerate a bit of manipulation, you can have a meaningful and quite interesting interpersonal relationship.

The System 5 patient will not be seen in the practice nearly as frequently as the conformist or the tribalistic people, because dental care is less important to him than many other things, particularly himself. His teeth are to be manipulated for his own advantage, just as the people in the dental office are to be manipulated.

System 6 — Sociocentric

At the sixth level of existence we find a small percentage of the population, possibly 15% or less. They are increasing in number, and particularly are found in younger people with a good education. The sociocentric is so called because of his high concern for other people, often more than for himself. He is the extreme opposite of the egocentric, who serves only himself. In fact, sociocentrics will not be found with proportional frequency in the dental practice, because they are more concerned with the world and dentistry on the public health level than with their own dental hygiene. System 6 sociocentrics care for people. This is their way. They like harmony in interpersonal relationships and expect a friendly, personal transaction with the dentist and all members of the staff.

A dentist, in dealing with a System 6 patient, would do well to relate his treatment program to its effect upon society, not simply its effect upon the System 6 himself. The dentist should also expect that the sociocentric would prefer to deal with him as a friend rather than as a doctor, because a doctor-patient relationship is perceived as artificial and standing in the way of true, meaningful human interaction.

System 6 patients care about people, but they do not care about the appointment calendar. They tend to respond to the structure of society with resistance, because they value personal freedom. Their values about religion and politics are good predictors of their values about dentistry, for they are very progressive, democratic and liberal.

System 6 people have a low regard for cleanliness and hygiene in all respects for themselves. They may be perceived by the dentists, staff and other patients in the waiting room as somewhat uncaring and representative of a life style which is offensive. The System 6 patient however, needs dental care just as much as a person with any other value system. Once again, as with the other value systems, the responsibility of the dentist is to accept the System 6 patient and work with him in a flexible, personalized relationship.

System 7 — Existential

This individual is truly an individual, but not in the hostile aspect of the egocentric, or the manipulative aspect of the level 5 person. His individuality makes it difficult for him to be dealt with in the typical dental practice. He is creative, adaptive, and most interested in his own self-expression. He resists manipulation and avoids conformity. He will maintain his dental health only if it is in context with this total personality and it makes his living more enjoyable. He maintains the only value system which is able to understand truly all the other value systems and relates to them in a meaningful manner.

He is primarily interested in his dental problems as problems themselves. The fee is usually not important to him. He may want to participate in treatment planning. He is in the dental office for his own personal reasons, which he may or may not share with the dentist.

To the existential person, a good dentist is one who explains the problem and lets him make the decision for treatment in his own way. There may be an appearance of procrastination or rejection; however, the System 7 patient must comprehend the totality of a relationship and how it affects him personally; and this requires time to be thoroughly thought through. Under these conditions it would not be effective for the dentist to press for closure and expect an immediate commitment for what should be done. The existential person expects to be an involved patient and believes it is his absolute right to determine what is best for him. He believes it is his decision, not the dentist's.

EXHIBIT II

STRATEGIES	DENTAL STRATEGIES
A PRESENTATION APPROACH	The case presentation itself containing the dental problem, the solution to the dental problem, and the sequence of specific treatment steps communicated in a manner meaningful within the patient's existing value system so that the patient not only accepts the treatment, but also accepts the dentist and his staff.
B TIME MANAGEMENT	The arranging and sequencing of events in time including appointments, time of day and day of week, duration, change of schedules and efficient utilization of resources so that the dentist, his staff and the patient all achieve a mutually effective balance among persons with differing values about time.
C FINANCIAL ARRANGEMENTS	The agreement between doctor and patient as to how much the fee should be and how it is to be paid, taking into consideration the values of the patient regarding money.
D TREATMENT PROGRAM	The accomplishment of the predetermined treatment plan with regard to available time and techniques as related to the patient's values and attitudes toward dental therapy.
E RECALL AND CONTINUITY	The maintenance of a continuing relationship that satisfies the needs of the patient, the dentist and the auxiliary staff in a meaningful long range program which comprehends the value the patient places on prevention and care of his dental health.

Dental Strategies

In effective practice management the dentist is concerned with several distinct functions in dealing with patients. We have defined five strategic approaches to practice management. Each of these must be well organized, programmed and treated as separate entities in the patient relationship. The five strategies in dental practice managment are: 1) presentation approach; 2) management of time; 3) financial arrangements; 4) the treatment program, and 5) recall and continuity.

Presentation Approach

The presentation approach is a means of communication with patients about the objectives of the treatment program in such a way that the treatment will be carried out to completion, and the needs of the patient and the needs of the dentist will both be satisfied by the same process. It is more than simply describing treatment. It is certainly no imposing the dentist's values on the patient. The presentation strategy will be effective when there is a complete, successful transaction. The presentation approach may be the most critical, essential step to establishing an interface and defining the transaction which will occur in the future among the dentist and his staff. In a later section we will discuss presentation approaches that are adaptive to the values of the patient as he exists in the dental relationship.

Time Management

Time management is the strategic approach to achieving dental goals with concern for utilization of the time available to accomplish specific dental objectives. This includes appointment scheduling, availability of staff, and the arrangement of resources with a suitable time frame so the treatment program can be well executed within the constraints of economics and human relationships. An effective time management strategy is one which takes all these factors into account. Since people have varying values regarding time, dentists need different strategic approaches to time management.

Financial Arrangements

The dental practice is by nature of our economic system a financial entity. Many dentists have succeeded as therapists and failed as businessmen because they have failed to take account of their financial arrangements in their transactions with their patients. It is of little avail to have a well organized, effective presentation approach and a highly efficient management of time without coupling closely to suitable financial arrangements with the patient. Because people hold widely differing values regarding money, an effective financial arrangement strategy will adapt to the patient's values, not the dentist's. The strategy will be constructed as a means in which a financial transaction will have as much satisfaction and meaning in support of a successful treatment program as the presentation approach or the treatment program itself.

Treatment Program

The treatment program relating to the actual dental services themselves has been well taught during the training phase of the dentist's career. However, once again, as with the other strategies, it is often a singleminded, one-way program that is presumed to work for all patients. A successful treatment program strategy will be one which achieves a compatible means of accomplishing the objectives of the treatment program from the viewpoint of the patient as well as the dentist.

EXHIBIT III

PATIENT VALUES & DENTAL STRATEGIES

	DENTAL STRATEGIES				
PATIENT VALUE SYSTEM	**Presentation Approach A**	**Time Management B**	**Financial Arrangements C**	**Treatment Program D**	**Recall and Continuity E**
2	Reassure that everything will be all right.	Tell when to come next.	Provide a long range payment plan.	Spread over several visits.	Keep reminding of appointments.
3	Don't expect acceptance; just proceed.	Don't expect a next time.	Get cash on the spot. No checks.	Do it all on first visit.	No recall and no continuity.
4	Assume acceptance and say what should be done.	Assign regular appointments.	Offer credit card and bank plans.	Explain the plan in detail.	Give an appointcard 6 months in advance.
5	Explain the personal and economic benefits.	Offer alternative times.	Negotiate 90 day no interest deal.	Do it in few visits and work efficiently.	Arrange on short notice and be persistent.
6	Accepts the dentist, not the treatment.	Anytime o.k., but expect a no-show.	Expect a cheque before leaving.	Avoid a rigid schedule.	Expect a walk in anytime.
7	Must approve of both the dentist and the treatment.	Will set own schedule.	Just send a bill.	Expect participation in planning.	Provide flexibility in the schedule.

Recall and Continuity

With successful implementation of the first four strategies, it is useful to maintain a continous relationship with the patient. An effective strategy for recall and continuity is one in which a long-standing relationship is built and maintained with the loss of relatively few clients and rarely with the need to reject or refuse further treatment.

The effectiveness of the office staff and their ability to comprehend, understand, and deal with patients as they exist is a critical factor in recall and continuity. Most dentists in our research study have presumed that they can deal on a continuous basis with the majority of the patients. Those that they cannot deal with on a continuous basis are assumed to be bad patients. It has been found that this is essentially due to the ability or inability of the doctor to relate to patients' needs and values.

However, even with effective interaction between the dentist and his clients, the ability to have recall and continuity has appeared to derive in large measure from the effectiveness of the staff. It has been demonstrated in our seminars that not only can dentists be trained easily to operate with different types of patients with differing value systems, but the auxiliary staff in the office can also acquire the competence to relate to patients with varying value systems and maintain an effective strategy for recall and continuity in the relationship.

Adapting Dental Strategies to Patient Values

With this brief description of the value systems and the definition of dental strategies, it is now possible to structure a matrix which gives guidance to the most effective approaches for different patient relations. Exhibit III is a combination of these two dimensions with brief statements of what the research has shown to be the most effective approach.

For instance, a person with Value System 2 would respond to a presentation approach which would reassure him that "everything will be all right." However, with the System 3 egocentric the presentation approach should be eliminated. Everything possible should be accomplished immediately because the relationship is likely to be a brief encounter. With a System 4 conformist, assume acceptance and proceed to set up regular appointments. System 5 people respond to social and economic benefits, so these should be explained. Sociocentric 6 patients accept or reject the dentist — not the treatment, as establishing a personal relationship is important. The System 7 patients, due to their tendency to integrate everything, must approve of both the dentist and the treatment.

Regarding financial arrangements, System 2 patients can be relied upon to pay for even the best dental services. if a long range payment plan is provided or the treatment can be spread over several visits. System 4 patients generally offer credit cards or prefer a bank

payment plan. System 5 patients, being money oriented, often respond to a "90 day no interest deal." System 6 patients will probably give a cheque before leaving and System 7 patients expect to receive a statement. From the egocentric, get cash as he will not be heard from until his next trauma.

With careful study of the value systems as described and reference to the matrix of approaches, it can be seen how and why flexibility in patient relations is required.

These concepts are offered with the belief that more good dental services can be delivered, better patient relationships can be acquired, and more self-acceptance can be experienced by both patient and dentist.

It is our genuine belief that the ability to accept and deal with people as they are is much more effective and workable than the idea that you should, and can, change patient behavior. **Accept them as they are — not as you would like them to be.**

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MICROBIAL FOOD POISONING

EDUCATIONAL SERVICES, HEALTH PROTECTION
BRANCH
HEALTH AND WELFARE, CANADA

Food-borne illness, more commonly known as food poisoning, affects thousands of Canadians each year. Its symptoms may range from mild nausea and discomfort to violent fits of vomiting, cramps and diarrhea. Occasionally, it results in death. Food-borne illness may be caused by either chemical or microbial agents.

Microbial food poisoning is far more prevalent and complicated than chemical food poisoning. While most of the bacteria in our environment are beneficial or harmless, there are a few strains which can cause food poisoning and other illnesses. For the purposes of discussion, the bacteria which cause food-borne illness may be divided into two categories, toxinogenic and infectious microorganisms.

- **Toxinogenic** organisms themselves are quite harmless when eaten in moderate amounts; their danger lies in the potentially poisonous toxins which they produce in food. Some toxins are especially dangerous because they are heat stable; that is, once they are formed, even extended cooking at high temperatures will not kill them. Other toxins are heat labile and will be destroyed by adequate cooking.
- **Infectious** food poisoning organisms do not usually produce toxins when growing in food; the organisms themselves cause illness when eaten in large numbers, or, occasionally, even in small numbers. In most cases, multiplication of the organism in the gut is required to cause illness. Most infectious food poisoning organisms are quite heat labile and can be controlled through adequate cooking and refrigeration.

Temperature Control

Both types of microbial food poisoning agents multiply most rapidly in temperatures between 40 degrees and 122 degrees F (4 degrees - 39 degrees C). Temperatures between 40 degrees - 140 degrees F (4 degrees - 60 degrees C) are considered to be **THE DANGER ZONE**. Therefore, it is extremely important to keep foods out of this range to prevent bacterial growth. Observe the following temperature guidelines when handling food:

Critical Temperatures for Safe Food Handling*

Internal Temperature

Operation	F	C
Home Canning	240 - 260	116 - 137
Cooking	165 plus	74 plus
Warm Holding	140 plus	60 plus
DANGER ZONE	40 - 140	4 - 60
Refrigeration	35 - 40	2 - 4
Frozen Storage	0 or less	-18 or less

*Adapted from FDA Papers, June 1972.

Governmental Protection Against Food Poisoning

One of the prime objectives of the Health Protection Branch of Health and Welfare Canada is to ensure a safe food supply for Canadians. This is done through legislation, inspection, research, and education.

Legislation

Through the provisions of the *Food and Drugs Act and Regulations*, the Health Protection Branch has control over the manufacture and distribution of all food products sold in Canada. General protection against food poisoning is provided for in clauses of the Act such as the one which states that "no person shall manufacture, prepare, preserve, package or store for sale any food under unsanitary conditions".

In addition to the general protection afforded by parts of the Act itself, there are several specific regulations dealing with particular foods prone to becoming contaminated with food poisoning agents. Some examples are:

- **Vacuum-packed meats** — The regulations dealing with vacuum packed meats stipulate that, at the time of packaging, such meats must be free of microorganisms capable of producing toxins; and after packaging, such meats must be stored continuously under refrigeration.
- **Ready-to-eat store-cooked meats** — Meats or meat by-products, such as barbecued chicken, which are barbecued, roasted, or broiled on the vendor's premises and offered as "ready-to-eat" products may not be sold unless they have been stored at temperatures below 40 degrees F (4 degrees C) or above 140 degrees F (60 degrees C) at all times and carry a statement on the label advising the purchaser to store them at such temperature until consumption.
- **Cheese** — Under the dairy regulations, no cheese made from unpasteurized milk may be sold until stored for at least 60 days, at which time many harmful bacteria will have died out. Other regulations deal with specific food poisoning organisms.
- **Eggs** — In order to be offered for sale, egg products must be free of *Salmonella*.
- **Fish** — Smoked fish, if vacuum-packed, must be heated to destroy *Clostridium botulinum* or sold as a frozen product.

SELECTED CAUSES OF MICROBIAL FOOD POISONING

Disease & Food Poisoning Agent	Frequency & Toxicity	Symptoms	Onset & Duration of Symptoms	Habitat & Foods Commonly Involved	Preventive Measures
TOXINOGENIC					
Staphyloccal food poisoning *(Staphyloccus aureus* heat stable toxin	Most common; death is rare	Cramps, nausea, vomiting, diarrhea	Onset 1-6 hrs. after eating; last 1 day	Found in nose & throat of most people; foods — baked ham, roast fowl, meat or potato salads, fish, cream desserts	Temperature control; sanitary food handling practices
Botulism *(Clostridium botulinum)* anaerobic bacteria; heat labile toxin	Rarest; death frequent; mortality rate at least 50%	Double vision, infection of nervous system, then paralysis	Onset 1 day to 1 week after eating, paralysis and/or death; recovery slow.	Found in most soils; foods — underprocessed home-canned or commercial vegetables, fish & meats	Temperature control through adequate cooking & refrigeration
Perfringens food Poisoning *(Clostridium perfringens)*	Very common; death is rare	Diarrhea, cramps	Onset 8 - 24 hrs. after eating; last 8 hrs.	Found everywhere, espec. in gut of animals; foods — meats, gravies	Temperature control through adequate cooking & immediate refrigeration or holding at above 140 degrees F.
Samonellosis *(Salmonella)*	Very common; occasional death for aged, infants, infirm	Cramps, chills, vomiting, diarrhea, fever	Onset 8 -- 24 hrs. after eating; usually lasts 2 - 3 days, but may last for weeks	Found in gut of domestic animals, espec. chickens; foods — poultry, eggs & egg products	Temperature control; sanitary food handling practices
Shigella poisoning *(Shigella)*	Uncommon; death unknown	Cramps, diarrhea	Onset 7 - 66 hrs. after eating; last ½ day to 1 week	Found in sewage contaminated water; foods — milk, ice cream	Sanitation
E. coli poisoning *(Esherichia coli)*	Uncommon; death unkown	Cramps, diarrhea, vomiting	Onset 6 - 36 hrs. after eating; last ½ day to 1 week	Found in sewage contaminated water; foods — shellfish	Sanitation

Inspection

Periodic inspections of food manufacturing plants and retail outlets ensure that members of the food industry maintain quality control and comply with these and other regulations concerning the foods susceptible to food poisoning contamination.

Research

In its modern food research labs, the Health Protection Branch carries out Food Safety Assessment projects to study foods commonly implicated in food poisoning, to develop new ways of making them safer, and to improve methods of detecting food poisoning agents in such foods.

Education

In addition to its legislative, research and inspection activities, HPB is involved, through the efforts of Educational Services, in programs designed to educate the public and members of the food service industry about the dangers of food poisoning.

Government and Industry Coordination

Other departments, including Agriculture Canada and Environment Canada, co-ordinate their programs of food poisoning prevention with Health and Welfare Canada in those areas where the departments' interests overlap. Cooperation among these federal departments, the provincial and municipal governments, and members of Canada's food industry helps to ensure that the food Canadians buy is free of contaminants which might lead to food poisoning.

Preventative Measures for Consumers

The federal government can only go so far in protecting Canadians against the hazards of food poisoning. In the home, food safety is YOUR responsibility. Assuming that most foods are free of contamination when you get them, it's up to you to keep them safe until they are served. Remember, the two keys to preventing food poisoning are *sanitation* and *temperature control*.

Sanitation: Employ sanitary food handling practices. When preparing food, keep yourself, your utensils, and your work area clean to limit the contamination of one food from another. Especially clean all surfaces that have contacted raw poultry. Keep all cuts clean and covered. Keep your work area free of flies and other insects which might spread bacteria. Don't handle food if you have a cold; if you must sneeze or cough, cover your mouth.

Temperature control: Keep foods in which bacteria grow rapidly out of the **DANGER ZONE** (40 degrees - 140 degrees F or 4 degrees - 60 degrees C). Potentially unsafe foods which provide an especially good medium for bacteria growth (such as meat, poultry and fish dishes, stuffing, gravies, meat and potato salads, custards and puddings, eggs, and cream-filled desserts) deserve special attention. Such foods should be thoroughly cooked and kept hot (above 140 degrees F internally) or refrigerated (below 40 degrees F internally) until serving.

References

Canadian Food and Drugs Act and Regulations, Articles 4 & 7; Regulations B.08.033, b.08.044, B.14.013, B.14.014, B.14.072, B.21.025, B.21.027, B.22.032.

Foster, E.M., "Microbial Problems in Today's Food", Journal of the American Dietetic Association, June 1968.

Horner, M., "Safe Handling of Foods in the Home", FDA Papers, June 1972.

Newell, G., "Food Safety", Food in Canada, April, May & June, 1973.

Pivnick, H., "Potential Public Health Problems or Hazards Relating to Storage and Distribution of Foods today", Paper presented to the Fifth International Congress of Dietetics, Washington, D.C., Sept. 1969.

Materials Available from Educational Services, Health 'Protection Branch

Aflatoxin Analyses for Consumer Protection — Dispatch #26

Barbecue Chicken and Food Safety — Tear Sheet

The Can With a ½Story — Tear Sheet

Danger Zone in the Kitchen — Programmed Learning Booklet

Food Safety — It's All in Your Hands — Booklet

The Danger Zone — Poster

Available from Visual Education, Toronto

Food — Handle With Care — Slide Series

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Mrs. Darlene Thomas
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Sherwood Park, Alberta

(Southern)
Mrs. Sherry Tully
2539 - 19 Street S.W.
Calgary, Alberta

Manitoba
Mrs. Heather Hool
309 - 390 Partridge Street
Winnipeg, Manitoba R2V 1K6

Ontario
Mrs. Pat Johnson
R.R. #2, Yonge Street
Aurura, Ontario L4G 3G8

Nova Scotia
Dr. Jeff Bagnall
Executive Secretary
Nova Scotia Dental Association
Rothman Building
Dutch Village Road
Halifax, Nova Scotia

The above provincial services are those listed with the CDHA Manpower and Utilization Committee. If there are any errors or omissions, please submit them to:

Mrs. Carole Kline, Chairman
CDHA Manpower and Utilization Committee
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PUBLICATION DES RAPPORTS DETAILLES DE NUTRITION CANADA

Le ministre de la Santé nationale et du Bien-être social, M. Marc Lalonde, a rendu public les rapports décrivant l'état nutritionnel de la population de chaque province, et celui des Indiens et des Esquimaux. Ces rapports constituent la seconde phase de l'interprétation de données recueillies au cours de l'enquête nationale **Nutrition Canada.**

Les rappports font état, de manière détaillée, des habitudes de consommation en termes de vitamines, minéraux et autres éléments nutritifs. On traite également des résultats d'études en laboratoire et de tests biochimiques en vue d'identifier les carences nutritionnelles à partir des prélèvements de sang et d'urine.

Rejoignant les conclusions du Rapport national (Enquête Nutrition Canada), les rapports détaillés indiquent qu'un grand nombre de Canadiens de tous âges souffrent d'un excédent de poids. On constate fréquemment certaines déficiences en fer, mais très peu de cas d'anémies ferriprives. Une petite proportion, chez les groupes de tous âges, présente de faibles taux de vitamine C dans le sang, mais aucun signe clinique de scorbut. Un examen préliminaire des données de l'étude nationale a fait craindre que les carences protéiques soient fréquentes chez les femmes enceintes. Toutefois, un examen minutieux des rapports détaillés ainsi que l'application de normes appropriées ont révélé que les carences próteiques chez les femmes enceintes se rencontrent beaucoup moins fréquemment qu'on ne l'avait d'abord cru.

On ne sait à quel facteur relier la fréquence plutôt élevée des faibles taux d'acide folique sanguin. Aucune donnée biochimique n'a permis de conclure à l'existence de carences en vitamine D et en calcium, bien que les quantités de ces éléments nutritifs retrouvées chez les nourissons, les enfants et les adolescents, se soient parfois révélées très insuffisantès.

férences d'une province à l'autre, il y à lieu toutefois de souligner la fréquence plus élevée des hypertrophies de la thyroide dans certaines provinces. Cette affection, non liée à une carence en iode, se rencontre plus fréquemment dans les provinces de l'Ouest et à Terre-Neuve que dans les autres provinces.

On a noté un plus grand nombre de problèmes graves de nutrition chez les Indiens et les Esquimaux que chez les autres Canadiens: chez de nombreux Esquimaux, le taux de vitamine C est déficient dans leur régime alimentaire aussi bien que dans leur sang; on a observé de nombreux cas de saignements de gencives, phénomène associé au scorbut; le manque de vitamine A dans le régime alimentaire des Esquimaux soulève aussi certaines appréhensions.

Les nutritionnistes provinciaux ont déjà pris connaissance de la teneur des rapports, qui aideront particulièrement les gouvernements à mettre en oeuvre des programmes correctifs, en fonction des priorités provinciales. Les gouvernements fédéral et provinciaux collaborent à des programmes nutritionnels, en Alberta et au Manitoba; de plus le dialogue est entamé avec un certain nombre d'autres provinces. Le gouvernement fédéral a annoncé qu'il envisage d'exiger l'enrichissement des aliments de base avec les éléments nutritifs essentiels appropriés, ainsi que la restitution aux aliments, des éléments nutritifs perdus lors de la transformation. Suite au Rapport de l'enquête **Nutrition Canada**, des instructions ont déjà été données suivant lesquelles des comprimés minéralo-vitaminiques devront être fournis à toute personne relevant du Service d'hygiène des Indiens et du Nord canadien à moins qu'il ne soit clairement établi, par leur régime alimentaire, que cet apport n'est pas nécessaire. Le Ministère étudiera attentivement les rapports sur l'état nutritionnel des Indiens et des Esquimaux, afin de déterminer si d'autres changements s'imposent.

D'autres programmes découlant de l'enquête **Nutrition Canada** sont en voie de réalisation au Ministère. Un comité de spécialistes en alimentation et en maladies cardio-vasculaires présentera ses conclusions au plus tard l'été prochain. Elles serviront de base à la mise en oeuvre de programmes éducatifs sur la nutrition, qui mettront en corrélation le régime alimentaire et la maladie cardiaque. Le programme serait lancé un peu plus tard cette année. Une révision du Guide alimentaire canadien, document de base largement utilisé en diététique, a fait l'objet de discussions avec les diététitiens provinciaux, et devrait être distribué à l'automne. Les "Normes de nutrition pour le Canada", qui établissent les besoins relatifs à divers éléments nutritifs pour les Canadiens de tous âges, ont été révisées par un Comité consultatif de spécialistes. Ce rapport est essentiel à l'établissement de programmes d'enrichissement des aliments sur une base scientifique solide. Il paraîtra au début de l'été.

Le Rapport sur la situation dentaire et le Rappport sur les modes de consommation alimentaire, de l'Enquête **Nutrition Canada**, sont en préparation.

Comme l'obésité est le problème de diététique le plus important au Canada, une attention particulière est accordée à la mise en oeuvre de programmes qui inciteront les Canadiens à abandonner leur mode de vie sédentaire et les stimuleront à s'occuper davantage de leur condition physique et à adopter de saines habitudes alimentaires.

Santé et Bien-être social Canada

CDA COUNCIL ON EDUCATION MEETING

The Council on Education, under the chairmanship of Dr. W. Feasby, met in Toronto on May 7 to 9, 1975. In attendance were the members of the Council on Education and representatives from the ACFD, NDEB, RCD(C), CDHA and CDNAA as well as a dental student. The following summary highlights some of the business transacted during this meeting. The complete agenda book and the minutes of the meeting are on file with the CDHA representative.

- Informational reports from the following groups were presented: NDEB, ACFD, ACMC, National Cancer Institute, Biennial Research and Education Conference, 1974, Task Force on Continuing Education, CFDE, CDHA and CDNAA.
- Committee reports from Aptitude Test, Survey Policy and Student Membership were presented.
- The ad hoc committee report "Requirements for Approval of an Undergraduate Dental Hygiene Program" was referred to the Survey Policy Committee.
- A resolution was passed which will establish a standing committee on continuing education under the chairmanship of Dr. G. Decker.
- The Chairman of the Council on Education has been directed to confer with the Chairman of the Council on Health Care and the President of the CDA with the intent of examining the future of dentistry in general, and the establishment of guidelines with short and long term projections applicable to the education, utilization and supervision of auxiliaries in particular.
- The topic of the 1975 Teaching Conference will be "Practice Management" and Dr. K. Pownall will be coordinator.
- The reports of the CDHA and the CDNAA were reviewed and received for information.

Joan S. Voris, CDHA Representative to the CDA Council on Education

NATIONWIDE

DAY CARE FOR CHILDREN

There is a critical shortage of supervised day care services for children in Canada. The severity of the shortage appears to vary throughout the country. Some federal/provincial programs have been developed to improve the availability of services. Priority appears to be given to the most needy — the single parent and the working poor. As much as one endorses this principle, it still leaves many persons like dental hygienists who may be working mothers, or fathers for that matter, who are not single parents without day care services. Until day care services are more easily available to those professional women and mothers willing and able to pay full costs, there will be no equal opportunity to participate in their chosen profession and career.

Day care may be provided at a centre or in a supervised home in the neighbourhood where a mother, often with children of her own, will provide care according to provincial regulations. Unfortunately, many children are being cared for in unsupervised homes which may or not be suitable and reliable or no supervision is being provided. Even the more expensive alternatives of housekeepers/babysitters/nannies are hard to find.

What is the status of day care in Canada? What are the needs of the dental hygienists in your region, province and in the country as a whole? What can YOU and your VOLUNTARY ASSOCIATIONS do to appraise the needs and to improve the services? Equal opportunity to participate in the work force and assured high quality care of our children, be it in our home, someone else's home or a centre go hand in hand.

The following publications are available without charge from the National Day Care Information Centre, Canada Assistance Plan, Health and Welfare Canada, Tunney's Pasture, Ottawa, Ontario K1A 1B5:

(1) **Status of Day Care in Canada**
A Review of the Major Findings of the National Day Care Study, 1973.

(2) **Day Care, A Resource for the Contemporary Family**
Papers and Proceedings of a Seminar, Ottawa, September, 1969, published 1974.

(3) **Canadians Ask about Child Day Care**
A Bibliography.

(4) **Day Care For Children**
Clarification of the role of the federal government in the provision of day care services and the identification of additional sources of information. 1974.

(5) **Choosing a Day Care Service**
(a) **The Day Care Centre**
Assists the parents in the selection of a suitable day care centre to best meet the needs of their family and of their child.
(b) **The Day Care Home**
For the use of parents who are planning out-of-home care for their child and have decided that the day care home answers their family's needs.

S.B. French, Ottawa

CONSTITUENTS' NOTEBOOK

Manitoba

- The Annual Meeting of the MDHA was held on May 3rd.
- The MDHA Constitution and By-laws have been revised and submitted to the CDHA for approval.
- Dental Health Week proved to be a success with all members of the dental health team being well represented. Chuck Liebroch, a member of the Winnipeg Blue Bombers, was the chairman. The week's activities included a poster coloring contest, television interviews of dental personnel, booths in shopping centers and student (Dental Hygiene) participation at the Festival of Life and Learning at the University of Manitoba.
- The Manitoba Dental Auxiliaries Committee is looking into the feasibility of having legal agreements for Manitoba dentists and hygienists.

Diane Girardin, Manitoba Delegate

British Columbia

- British Columbia dentists, dental hygienists and dental assistants convened for a joint convention, "Spring Tonic '75", in Vancouver on April 30 to May 3. Featured presentations included: "Sex in Everyday Life", Dr. G. Szasz; "The Year of the Trigger", Dr. N.B. Brahe; "Preventive Orthodontics", Dr. M. Wainwright; and "Self-esteem: How to Wear it and Share It", Dr. L. Tice.
- The BCDHA Annual Meeting was held Thursday, May 1, following a dinner honoring retiring President Peggy Guest and the 1975 graduates of the UBC Program of Dental Hygiene. Lynn Cleason, one of the graduating students, was presented with the BCDHA Silver Tray Award for her contributions as a junior member of the Association. Joan Sanders, one of the founding members of the BCDHA and currently the Constitution Committee Chairman, was made a Life Member of the Association.
- "What's New in the P.A.R.C." was awarded first prize in the Table Clinic Competition which was held in conjunction with the Annual Convention. Table clinicians were Sue Ellis, Claudia Anderson, Sue Lighthall, Marion Alexander and Lillian McKittrick from the Greater Vancouver Dental Hygiene Component Society. Sue Ellis was selected as the recipient of the prize which is a return airfare to the CDHA Convention in St. john's, Newfoundland, where she will present the table clinic.
- The proposed amendments to the BCDHA Constitution and By-laws have been approved by the general membership and will now be sent to the CDHA Constitution Committee for consideration.

Joan Voris,
British Columbia Delegate

CLASSMATES — CAN YOU HELP?

Each C.D.H.A. mailing seems to bring new names to this list of hygienists for whom we have no current addresses. Some have been on the list several times already and others are new additions. Please take the time to read it over and if you know any addresses and/or name changes, please send them to Mrs. Jo Gardner, 1125 W. 54th Avenue, Vancouver, B.C. V6P 1N3. Thank you.

UNIVERSITY OF ALBERTA

Watson, Mrs. Marion (Kelly)	1963
Booker, Mrs. Ellen (Perkins)	1965
Francouer, Mrs. Gloria (Goudreau)	1965
Miller, Mrs. Lorraine	1965
Heath, Miss Janice	1970
Matiushyk, Mrs. Denise (Stashko)	1971
Plastow, Miss Darlene	1971

DALHOUSIE UNIVERSITY

Boutilier, Miss Daphne	1970

UNIVERSITY OF TORONTO

Year Unknown	
Desko, Mrs. Margaret (Dye)	
Lipton, Mrs. Nancy (Egleman)	1959
Franklin, Mrs. Judy (Sugar)	1960
Voldner, Mrs. Gunvor	1960
Hunter, Mrs. Susan (Chenier)	1961
Freeman, Miss A.	1962
Thomson, Mrs. Carol (Sharpe)	1963
Shaw, Mrs. Renee (Swadron)	1966
Barr, Mrs. Heather (MacDonald)	1967
Jones, Mrs. Sabella U. (Stansities)	1967
Hornaby, Mrs. Barbara (Nicholson)	1968
Millstone, Miss Leah	1969
Higgins, Mrs. Laurelyn (Welsh)	1970
Holt, Mrs. Jayne (Baker)	1970
Crump, Mr. John	1972
Ley, Mrs. Margaret (Cox)	1972
Freer, Miss Gayle Ann	1973

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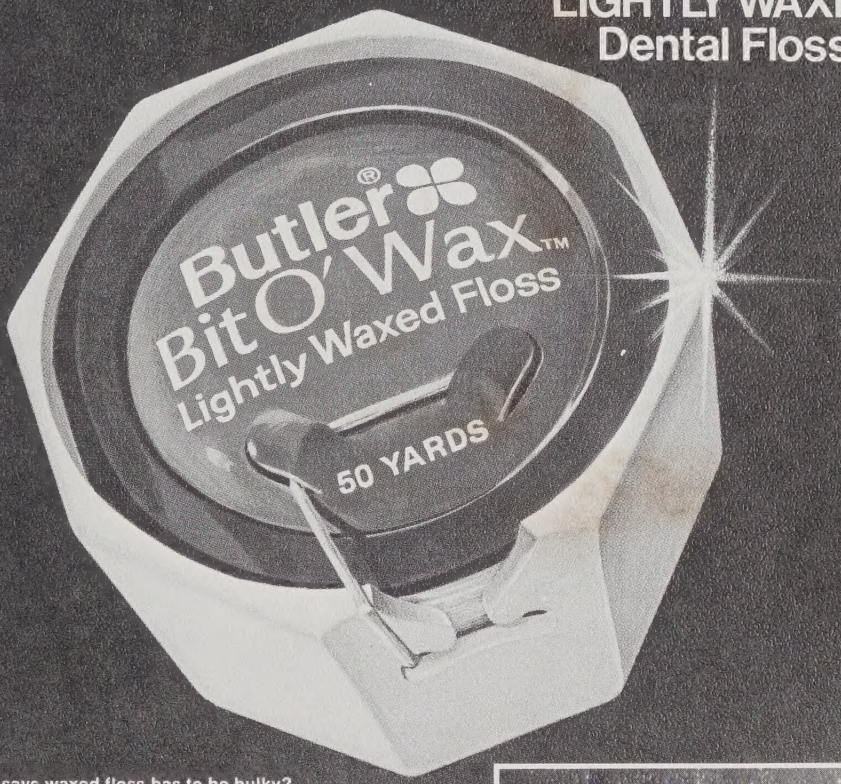

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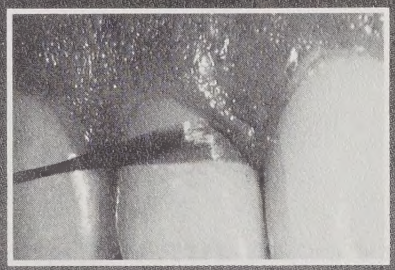

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FALL 1975 AUTOMNE
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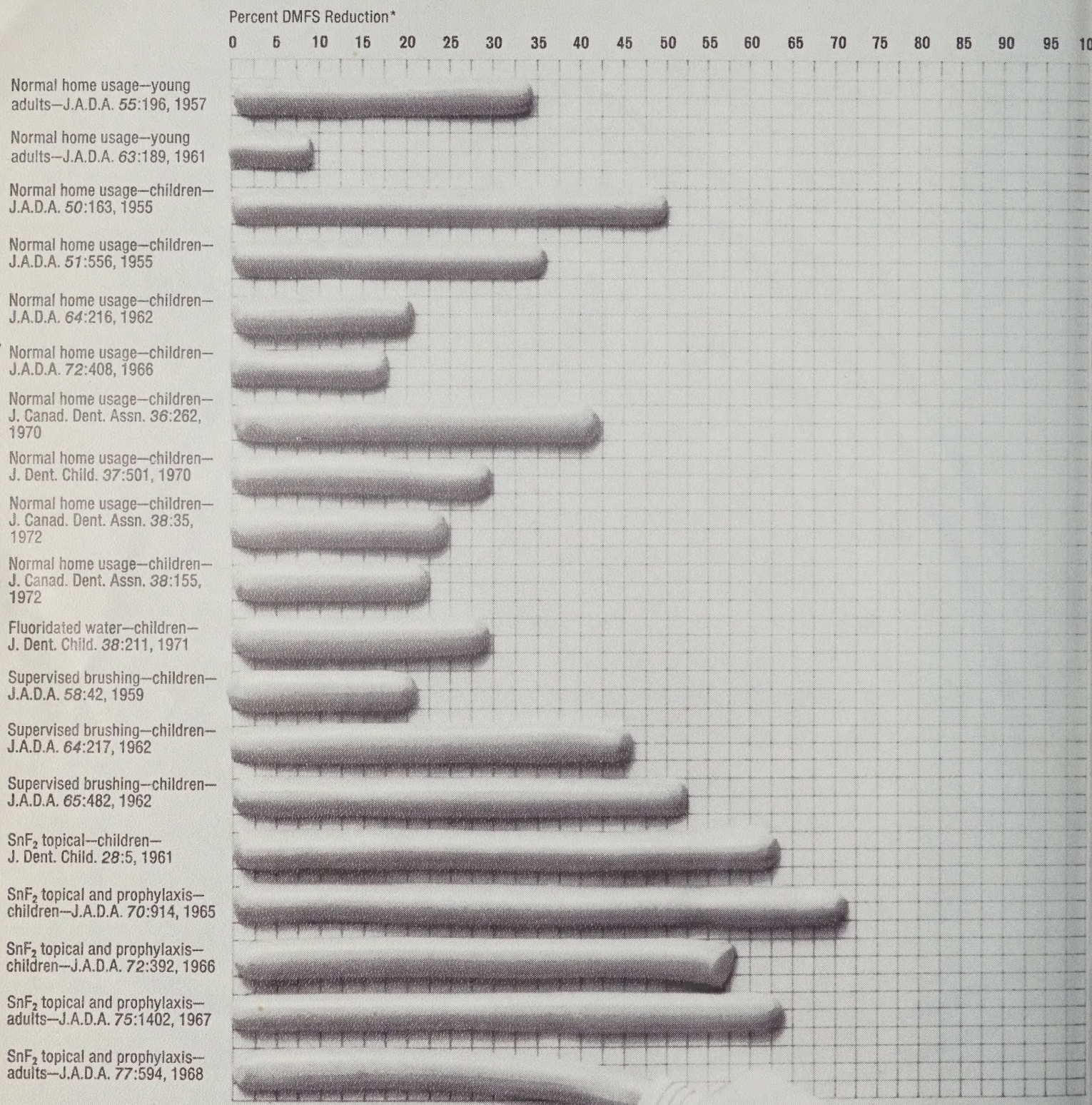

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CDHA BULLETIN ACHD

975 AUTOMNE

VOLUME 9, No. 3

CONSTITUENTS' NOTEBOOK

Manitoba

- Two bills have been passed by the Legislative Assembly pertaining to dentistry. Bill 52 is permissive legislation which provides for the establishment of a delivery system for dental services and Bill 53, the Dental Health Workers Act, removes control of auxiliary practice from the provincial dental association.
- Letters were sent to federal, provincial and city health departments as well as educational institutions expressing our concern about the lack of current dental health information presently in use.
- Members on the Manitoba Dental Auxiliaries Committee have been studying the COP system and have recommended to the Board that the levels I, II and III be accepted and implemented as soon as possible by the educational institutions teaching auxiliaries in these levels in Manitoba.

Diane Girardin, Manitoba Delegate

CDHA JEWELLERY

CDHA pins and charms are now in stock at O.B. Allan Jewellers in Vancouver so there will be longer be such a long delay between sending your order and receipt of the item. Pins and charms may be ordered in sterling silver or gold filled. The new prices now in effect are as follows:
Gold filled pins or charms. . . . $8.50
Sterling silver pins or charms . $4.50

Pins and charms can also be made in 10k or 14k gold and although these are not kept in stock, orders will be filled promptly. Price for these items will be assessed at the time of manufacture.

Orders are to be placed through Jo Gardner, 1125 West 54th Avenue, Vancouver, B.C. V6P 1N3. To order, send a cheque or money order made out to O.B. Allan Jewellers for the correct amount (B.C. residents include the 5% sales tax) along with a description of the item wanted (type of metal, pin or charm). Please **DO NOT** make the cheque out to the CDHA or to Jo Gardner.

PREVENTION OF BACTERIAL ENDOCARDITIS

Patients with rheumatic or congenital heart disease who undergo certain dental or surgical procedures or instrumentations on the upper respiratory tract, genitourinary tract, or lower gastrointestinal tract, and those who undergo cardiac surgery, risk development of bacterial endocarditis. This statement provides the physician and the dentist with guidelines and specific regimens for preventing bacterial endocarditis during these procedures.

Bacterial endocarditis is one of the most serious complications of congenital heart disease, and rheumatic and other acquired forms of valvular heart disease. It has a high mortality and its sequelae can be crippling. Therefore, its prevention is one of the most important tasks of those caring for patients with these forms of heart disease — physicians and dentists alike.

Dental or surgical procedures or instrumentations on the upper respiratory tract, genitourinary tract, lower gastrointestinal tract, or the heart may be associated with transitory bacteremia. Bacteria in the bloodstream may lodge on damaged or abnormal valves or endocardium, such as are found in rheumatic or congenital heart disease, and cause bacterial endocarditis. It is impossible to predict the specific patients in whom this will occur.

Although no data are available from controlled clinical trials on the prevention of bacterial endocarditis, prophylaxis is recommended in those situations most likely to be associated with bacteremia since it is known that bacterial endocarditis cannot occur without a preceding bacteremia. In choosing antibiotics for prophylaxis, one should consider the organisms that are likely to be seeded into the bloodstream from any given site and, among these organisms, those most likely to cause bacterial endocarditis. The prophylactic measures outlined below are recommended on the basis of current information on these organisms and their sensitivity to antibiotics.

DENTAL PROCEDURES AND ORAL HEALTH

Patients with the forms of heart disease mentioned above should maintain the highest level of oral health to eliminate or minimize potential sources of bacterial seeding, because dental caries, periodontal and periapical disease may be the source of bacteremia even in the absence of dental procedures.

Patients without natural teeth are not free from the risk of bacterial endocarditis. Ulcers caused by ill-fitting dentures should be promptly cared for, since they may be the source of bacteremia.

The incidence of bacteremia following dental procedures varies with the extent of the procedure, the traumatization of the gingivae, and the presence of infection. Prophylaxis is recommended with all dental procedures that are likely to cause bleeding. Since viridans streptococci are the organisms most commonly implicated in bacterial endocarditis following these procedures, prophylaxis is directed specifically against them.

SUGGESTED PROPHYLAXIS FOR DENTAL PROCEDURES

I. For most patients:

Pencillin

a) Intramuscular:

600,000 units of procaine penicillin G mixed with 200,000 units of crystalline penicillin G one hour prior to procedure and once daily for the two days following the procedure.

OR

b) Oral:

1. 500 mg of penicillin V or phenethicillin one hour prior to procedure and then 250 mg every six hours for the remainder of that day and for the two days following the procedure.

OR

2. 1,200,000 units of penicillin G one hour prior to procedure and then 600,000 units every six hours for the remainder of that day and for the two days following the procedure.

II. For patients suspected to be allergic to penicillin or for those on continual *oral* penicillin for rheumatic fever prophylaxis, who may harbor penicillin-resistant viridans streptococci:

Erythromycin

Oral

Adults: 500 mg one and one-half to two hours prior to procedure and then 250 mg every six hours for the remainder of that day and for the two days following the procedure.

Children: The dose for small children is 20 mg/kg orally one and one-half to two hours prior to the procedure and then 10 mg/kg every six hours for the remainder of that day and for the two days (or longer in the case of delayed healing) following the procedure.

NOTE: Erythromycin preparations for parenteral use are also available.

American Heart Association

NATIONWIDE

HEALTH AND FITNESS

As dental hygienists we should have the most physically fit teeth and gums in the land. We know the value of good dental health practices. However, do we pay as much attention to the fitness of our bodies as a whole as we do for the fitness of mouths? Not at all, if we are similar to other Canadians. According to the Department of National Health and Welfare publication *Health and Fitness*, in winter only 20% of the Canadian population engaged in some form of physical activity such as walking for pleasure, jogging, hiking or other exercise. 80% were completely inactive. Most of Canada is covered with snow five months of the year. Hence if we are to become a fitter, healthier nation we must be more active in both winter and summer.

As health professionals, we should promote and reflect a personal lifestyle which is complimentary to total health. After all, the consequences of neglect are much more serious than periodontal disease and loss of teeth. They include lack of stamina, coronary heart disease, and possibly even premature death.

Why risk your life? After all, we always say that prevention is better than cure. Start to exercise regularly today. "Participaction" is the message — for deep down in your heart you know it's right. Also, you could promote the "total physical fitness" concept with your patients.

The following publications are available free of charge in French or in English from the following address:

Fitness and Amateur Sport Branch
Department of National Health and Welfare
Journal Building
365 Laurier Avenue W.
Ottawa, Ontario K1A 0X6

Health and Fitness

This is a 48 page booklet providing practical information on fitness. It was written by the eminent Swedish exercise physiologist Dr. Per-Olof Astrand. It explains how exercise can help a person feel and look better, cope with stress better, reduce mental and physical fatigue, and enjoy the social aspects of physical activity. Exercise is a necessary and enjoyable part of life.

A Matter of Balance

A colourful 18" x 12" poster showing types of foods, amount or measure, numbers of calories taken in and time in minutes required to "walk off" each food. Low calorie snacks and beverages are identified.

To "Burn" 100 Calories . . .

A two colour 22" x 18" poster identifying the amount of walking, skiing, cycling, playing tennis and gardening required to burn off 100 calories.

Joie De Vivre!

A series of 6 colourful photographic posters 23" x 17", #1 Jogging, #2 Swimming, #3 Canoeing, #4 Walking, #5 Skating, and #6 Cross Country Skiing, illustrating the joy of exercising.

You've Got To Have Heart

A poster 17" x 22" illustrating graphically how the heart rate gradually declines with regular exercise.

S.B. French, Ottawa

NUVA-LITE HAZARD SEEN BY FDA; DISTRIBUTION STOPPED

Washington — The Food and Drug Administration has determined that Nuva-Lite dental restorative activator lights are more hazardous than had been previously thought and has ordered that the sale and distribution of the instruments be temporarily suspended by the L.D. Caulk Co. Reports were discovered by the FDA of 31 cases of eye irritation or minor skin burns which had not previously been reported to the FDA or to the ADA Council on Dental Materials and Devices.

The FDA decision was made in a meeting with L.D. Caulk Co. officials, with representatives of the Council on Dental Materials and Devices sitting in as observers. The Council has voted unanimously to suspend indefinitely its prior approval of two products used with the Nuva-Lite activator light until satisfactory modifications are made in the instrument by the company. The quality of the two products, Nuva-Seal pit and fissure sealant and Nuva-Fit composite restorative resin, is not in question, only the need for correcting the unnecessary emissions of ultraviolet light from the Nuva-Light. The Council is assisting the FDA in locating owners of the lights.

The actions of the FDA and the Council have been reported by letter to all members of the Association.

Both the FDA and the Council have known for some time that the Nuva-Lite produces stray ultraviolet light which is not needed to harden the plastic resins used in the Nuva restorative system. The FDA and the Council last year requested the Caulk Co. to provide shielding to dentists to eliminate the stray radiation, and the company complied (see ADA NEWS, March 24, 1975).

However, the FDA has since found still another point of radiation leakage on the light and has now decided that the company rather than the dentist has the responsibility to make the necessary modifications to the device.

Dentists who own Nuva-Lite activator lights should take the following steps, according to the AFDA:

— Stop using the light until modifications can be made to the unit by the Caulk Co.

— Write or phone the Caulk Co. (P.O. Box 359, Milford, Del. 19963, 302-422-4511) and give them the serial number of the unit.

— Wait for a communication from the company giving information on how the modification is to be made.

ADA News

THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

FALL 1975 AUTOMNE **VOLUME 9, No. 3**

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L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient ête adressér aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

L'adresse permanente de l'Association des hygiénistes dentaires du Canada est la suivant: P.O. Box 8252, Ottawa, Ontario K1J 3H7.

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AMERICAN ASSOCIATION OF DENTAL EDITORS
617 6/CN ISSN 0008-3380

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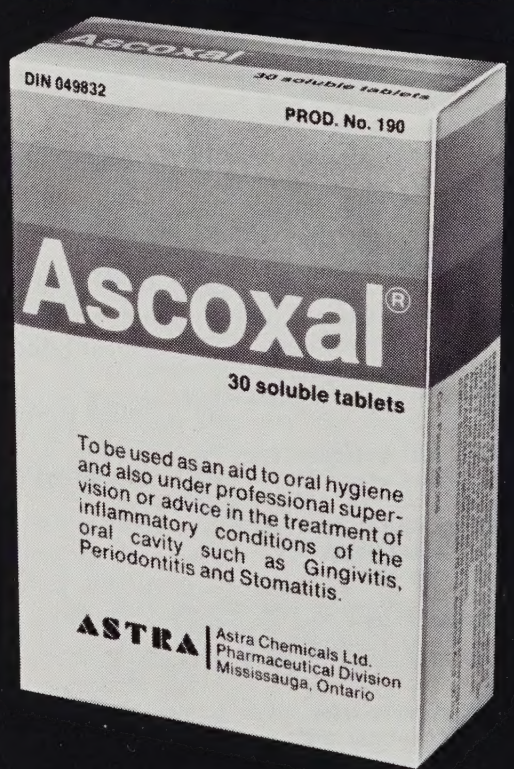


MEMBER PMAC

Deserves your confidence

PRESIDENT'S MESSAGE

Iris Gold was installed as the 12th President of the Canadian Dental Hygienists' Association during the 1975 Annual Convention in St. John's, Newfoundland. Iris, who is a native of Winnipeg, received her certificate in dental hygiene from the University of Manitoba. Upon graduation in 1967, she moved to Calgary where she worked for four years, first in private practice and then in public health. In 1971, she returned to Winnipeg where she was a demonstrator and then lecturer for the School of Dental Hygiene for two years. Currently, Iris is the Co-ordinator of the Dental Assisting Program at Red River Community College. Iris has been involved in professional activities at both the provincial and national levels and has served in the following capacities: Dental hygiene representative to the Manitoba government committee proposing a children's dental health plan (1973); delegate from the Manitoba Dental Hygienists' Association to the CDHA Board of Directors (1973); dental auxiliaries representative on the Board of the Manitoba Dental Association (1975-76).

"Living is
a thing you do
now or never —
*which do you?"**

Which sort of person are you? Are you someone who accepts today's challenge, rather than putting off a decision and then deciding "No"?

The C.D.H.A. is fortunate in having a number of "today" people who represent dental hygienists on a number of councils and committees. Pat Johnson, Carol Kline and Joan Voris are three of a number of dental hygienists who devote time and energy to major national committees. Jo Gardner and Marjorie Dimitri are two people who have made commitments to work within the Association on a continuing basis. Some others, like Marilyn Mabey in Alberta are active in local dental concerns such as licensure. There are those whose interest and concern force them to remain active and vocal because they see such involvement as an obligation to the dental hygiene community.

We need these people! We also need more like them! A relatively small group should not be expected to undertake the responsibility for participation in the widening spectrum of C.D.H.A. activities. Members who are willing to become involved will find that they are welcomed enthusiastically by the experienced ones, and that expertise is shared with pleasure. Take it from someone who is still "new" to the business!.

The entire dental field in Canada is changing almost daily. Nearly all of the provinces have legislation or plans or at the very least, proposals which can and will change the profile of dentistry. Provincial governments are moving toward dental care programs of various scopes; indications are that dental auxiliary practice will change, and varied auxiliary types are being proposed and developed. A significant and exciting factor here is that dental auxiliaries are being included, and recognition is being given to the fact that no one group in dentistry has "all" the answers!

There are some pretty powerful bonuses to becoming involved, too. Meeting people with different ideas; developing your own; learning so very much about the field you thought you knew pretty well! The whole sense of involvement means work, it's true, but it also means what Alice couldn't have in Wonderland . . . she could have "jam yesterday" and "jam tomorrow", but never have "jam today", remember?

Maybe I should have said cheese spread.

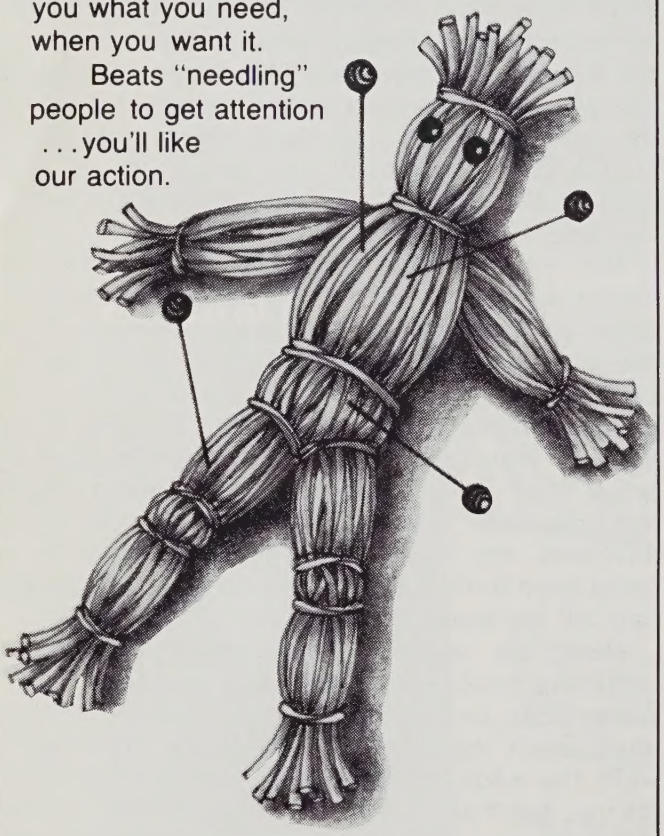
*"Living Is" from GROOKS 1 by Piet Hein. General Publishing Company Ltd. 1969.

Lost art?

Ever wonder what you have to do to get a little attention from your dental supplier. Could be that business is so good that he doesn't need you . . . then again, maybe he's forgotten the importance of customer "service".

Get the point, Doctor. You're better off dealing with a full line supplier like Denco, who field a team of knowledgeable dental supply specialists. People who take an interest in your practice, visit you regularly and follow through to get you what you need, when you want it.

Beats "needling" people to get attention . . . you'll like our action.



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GUEST EDITORIAL

THIS STORY HAS SEVEN YEARS

In this year of the "women", what does a mere male and a rather ancient one at that, have to say to dental hygienists who fortunately tend to be delightfully feminine? Your Editor was kind in extending her invitation for a guest editorial. "Anything you like," said she, "as long as it's about the Canadian Fund for Dental Education." Ah well, so be it.

Seven years ago last June, CDHA President-elect Shelly Altman penned a letter asking for information about CFDE. Naturally I was pleased to provide it — in sunny Vancouver — to her and President Jo Gardner. Then there were more discussions with Shelly and Pat Johnson on a wet, cold, windy March day in beautiful downtown Toronto. Since, there have been some big steps forward and all of us connected with CFDE are happy indeed to have played a small part in the significant achievements of the CDHA.

In 1969 your Association had some money and CFDE had an estalbished office and hopefully considerable business expertise. Your then Executive with a keen eye on the future decided to establish a $3,500 trust fund with CFDE, on the clear understanding that the income was to be used in perpetuity for the sole benefit of hygienists.

Shortly thereafter it was mutually decided that scholarships for dental hygiene students should be offered in each of the nation's schools. Since then twenty-seven $200.00 scholarships have been awarded to outstanding first-year students: outstanding in the sense of academic excellence and participation in organized undergraduate activities. Money for this important program has been provided by CFDE using income from your trust fund, individual gifts from hygienists and an annual special grant from the Procter & Gamble Company.

Our CFDE trustees have always been convinced that highly qualified teachers are the heart of any educational program. As a result the Fund has offered fellowships for many years to assist dentists in pursuing teaching careers. In 1969 the Fund received its first application from a dental hygienist for a teacher training fellowship. The applicant, Dorothy F. Mayers (now Mrs. Phillips) of North Vancouver, received an award to assist her in obtaining a Bachelor of Science degree from the University of Washington. It proved to be a wise investment because Dorothy has helped educate many capable hygienists since receiving her degree.

Over the years the Fund trustees became increasingly aware of the pressing need for more hygienists and the inevitable demand for highly qualified teachers to train them. In 1974, with the full approval of the CDHA Executive, it was decided to abandon the scholarship program, at least temporarily, in order to concentrate on teacher training fellowships. To date $18,000 has been invested in the future of your profession with twelve such awards to eight hygienists.

CFDE has demonstrated its interest in advancing your profession in other ways, such as financing a CDA Conference on Dental Auxiliaries at Banff, Alberta, early in 1974, attended by over a hundred delegates representing all sections of the dental health team. Purpose of the meeting was to establish guidelines on the short- and long-range objectives needed for the education, licensure and practice of dental auxiliaries in Canada. Marjorie Dimitri, Past President of CDHA, was an extremely active and involved member of the organizing committee.

The Fund trustees have also approved grants for two workshops for dental hygiene educators. Purpose of both meetings is to ensure adequately trained teaching personnel for the rapidly increasing number of dental hygiene schools.

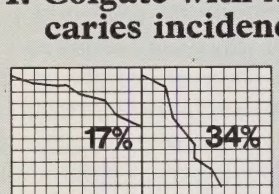
Public demand for dental health care is increasing by leaps and bounds with resultant pressures on all members of the dental team. You can help make sure that your profession meets its challenge by sending your contribution to CFDE — today.

Please remember tax deductible gifts from hygienists are used solely for their benefit.

Murray McDonald, Executive Director
Canadian Fund for Dental Education

Four good reasons to recommend Colgate with MFP.*

1. Colgate with MFP reduces new caries incidence.

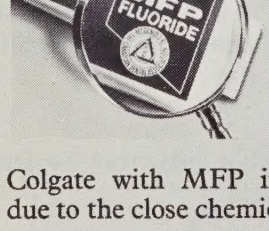


Almost all fluoride dentifrices are made with stannous fluoride. Colgate is the only one made with monofluorophosphate. Colgate with MFP has been tested in clinical studies adding up to 19 years among 4,234 children in eight cities.

In five of these studies, control dentifrices were used and Colgate with MFP resulted in reduction of new caries ranging from 17% to 34%.

In two of the three other studies against a leading fluoride dentifrice, Colgate with MFP resulted in a reduction of new caries of 11% and 34%, while in the third test, Colgate with MFP was found equally effective.

2. Colgate's advanced fluoride formula is different.



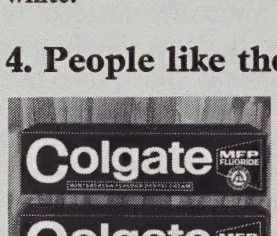
Of the leading fluoride toothpastes, only Colgate has MFP fluoride — a sodium monofluorophosphate formula that appears to convert tooth enamel apatite into fluoropatite, in a way similar to the topical application of fluoride. The effectiveness of Colgate with MFP in combating new caries may be due to the close chemical relationship of MFP and apatite.

3. Colgate with MFP helps keep teeth white.

It is widely recorded in th literature that certain fluorides i aqueous solution and in dent frices cause brownish-blackis discolouration of teeth becaus the stannous anion can combir with many cations to for highly-coloured compounds.

Colgate with MFP, however, contains sodium ions - which combine with the same cations to form white colourless compounds. So Colgate with MFP not on helps protect teeth from caries, but also helps keep tee white.

4. People like the taste of Colgate.



For decades, people all over th world have enjoyed the peppe mint — spearmint flavour Colgate Dental Cream, just they now enjoy this same flavo in Colgate with MFP fluoride

Realizing that not everybody taste is the same, Colgate h also developed a refreshing Winterfresh flavour. Bo flavours — Winterfresh and Regular — are recognized b the Canadian Dental Association. In consumer testing, th Winterfresh flavour has proven especially popular wi children. And you know how important it is to get kids brush regularly. Especially with a fluoride toothpaste lik Colgate with MFP.

Colgate with MFP fluoride. An advanced fluoride treatment.

"Colgate has been shown to be an effective decay-preventive dentifrice that can be of significant value when used in conscientiously applied program of oral hygiene and regular professional care."

Canadian Dental Associatio

*T.M. Reg'd Colgate-Palmolive Limited

OCTOBRE EST LE MOIS CFDE

Octobre est le mois CFDE, le mois durant lequel on demande aux hygiénistes dentaires du Canada de donner leur appui aux besoins en éducation de leur profession par une contribution au Fond Canadien pour l'Education dentaire. Le but de CFDE est expliqué par le titre. Pour élaborer, le Fond cherche à améliorer la qualité de l'éducation dentaire et l'éducation pour auxiliaires dentaires ainsi que la recherche à travers tout le Canada et par le fait même, il cherche à long terme à améliorer la qualité des soins dentaires pour tous les Canadiens.

Depuis sa fondation en 1962, le CFDE en coopération avec les membres de l'industrie dentaire a procuré une assistance financière pour:

— la formation des maîtres
— l'accréditation des programmes dentaires et programmes pour auxiliaires
— subventions de facultés
— conférences
— programmes de cliniques de table

Depuis 1973, par anticipation d'un besoin croissant de maîtres en hygiène dentaire, le Fond a distribué 7 bourses à des hygiénistes désirant poursuivre leur carrière en enseignement. Avec l'augmentation du coût des études, il ne fait aucun doute que ces bourses furent appréciées et eurent des avantages significatifs pour ces individus. Tous les récipiendaires doivent certifier leur intention d'enseigner à temps-plein ou partiel dans une institution canadienne offrant un programme d'éducation professionnelle en dentisterie ou en hygiène dentaire pour des sous gradués. La responsabilité minimum en retour consiste en un an de service dans une faculté pour chaque année de subvention.

En 1974, CFDE a donné deux subventions à l'Association canadienne des hygiénistes dentaires pour le développement d'ateliers pertinents à l'éducation en hygiène dentaire. Le premier est un atelier pour conseillers en éducation en hygiène dentaire et le second est pour les maîtres en hygiène dentaire et consiste en un atelier sur l'enseignement des techniques cliniques. La suggestion pour ces ateliers a été faite et soumise par le comité d'éducation de l'Association canadienne des hygienistes dentaires sous la présidence de Joan Voris.

Le Fond Canadien pour l'Education Dentaire est supporté par des contributions faites par des industries et commerces, des organisations dentaires et d'auxiliaires dentaires et des contributions personnelles par des membres de l'équipe dentaire.

Toutes les contributions venant des hygiénistes dentaires sont déposées dans un compte spécial pour leur bénifice. A ce fond est a ajouté un intérêt sur le fond de fiducie de CDHA, une contribution annuelle par la compagnie Proctor and Gamble et des dons d'organisations locales, provinciales et nationales d'hygiène dentaire.

Même si le mois d'octobre a été désigné comme le mois spécial pour les contributions, elles sont bienvenues en tout temps de l'année. Tous ces dons sont déductibles d'impôt et sont reconnus avec remerciements par le CFDE. Le rapport annuel du Fond incluant une liste des donneurs est publié par le journal CDA. Notre éducation en hygiène dentaire nous a procuré une vie agréable et une bonne façon de vivre. En contribuant à CFDE, nous pouvons demontrer notre foi dans le futur et rembourser une dette du passé.

1975 AWARDS TO GRADUATE DENTAL HYGIENISTS

The Board of Trustees of the CFDE are pleased to announce the 1975 dental hygiene recipients of teacher training fellowships.

Peggy Marlene Larder, a 1973 graduate of Dalhousie University who is pursuing a Bachelor of Science in Education majoring in Health Education at Boston-Bouve College.

Cynthia Eileen Lauriente, a 1973 graduate of the University of British Columbia who is completing her last year towards a Bachelor of Science Degree in the Health Sciences at U.B.C.

Kate MacDonald, Director, School of Dental Hygiene, Dalhousie University, who is pursuing a Master of Education Degree in Humanistic and Behaviorial Studies at Boston University and Mount Saint Vincent University.

Judith Puhl, a full time instructor for the School of Dental Hygiene, University of Manitoba, who is pursuing a Masters Degree in Higher Education with emphasis on Educational Psychology at the University of Minnesota.

OCTOBER IS CFDE MONTH

OCTOBER IS CFDE MONTH, the month when dental hygienists in Canada are asked to support their profession's educational needs by contributing to the Canadian Fund for Dental Education. The aim of the CFDE is embodied in its title. To elaborate, the Fund seeks to improve the quality of dental and dental auxiliary education and research throughout Canada and in following this avenue, it seeks in the longer term to improve the quality of dental care for all Canadians.

Since its establishment in 1962, the CFDE in cooperation with members of the dental trade industry has provided financial assistance for:

- Training of teachers
- Accreditation of dental and dental auxiliary programs
- Faculty grants
- Auxiliary scholarships
- Conferences
- Table clinic programs

In anticipation of a rapidly developing need for dental hygiene teachers, the Fund has since 1973 awarded seven fellowships to hygienists wishing to pursue a career in teaching. With the increasing costs of education, there is no doubt that these awards were appreciated and of significant advantage to these individuals. All fellowship recipients must certify that they intend to teach on a full-time or half-time basis at a Canadian institution conducting a program of undergraduate professional education in dentistry or dental hygiene. Minimum responsibility in this regard consists of one year's service to a faculty for each year of support.

In 1974, the CFDE also awarded two grants to the Canadian Dental Hygienists' Association for the development of workshops pertaining to dental hygiene education. The first is for a workshop for dental hygiene education advisors and the second is for a dental hygiene educators workshop on teaching clinical techniques. The proposals for these workshops were prepared and submitted by the CDHA Education Committee under the chairmanship of Joan Voris.

The Canadian Fund for Dental Education is supported by contributions from business and industry, dental and dental auxiliary organizations, and personal contributions from the members of the dental team. All contributions from dental hygienists are held in a special account for their benefit. To this fund is added interest on CDHA's trust fund, an annual contribution from the Proctor and Gamble Company and donations from the national, provincial and local dental hygiene organizations. Although October has been designated as the special month for contributions, they are most welcome at any and all times of the year. All gifts are tax deductible and are acknowledged with thanks by the CFDE. The Fund's Annual Report including a list of contributors is published in the CDA Journal.

Our dental hygiene education has provided us with a good life as well as a good living. By contributing to the CFDE, we can demonstrate our faith in the future and also redeem a debt from the past.

WHAT IS CFDE DOING FOR DENTISTRY IN 1975?

INVESTING $126,000 IN DENTAL EDUCATION AND RESEARCH!

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When someone asks me about the Canadian Fund for Dental Education, two words immediately come to mind: gratitude and appreciation. I am grateful to CFDE for granting me a fellowship to continue my education to fulfill a longstanding ambition, that of teaching in a school of dental hygiene. Without this aid it would have been impossible to shoulder the high tuition costs at an American university.

I sincerely appreciate the opportunities that are available to me in the field of dental auxiliary education since completing my studies. My four years of full time teaching were extremely challenging and rewarding. Now, with new family responsibilities, I appreciate all the opportunities available in dental education on a part-time basis.

The funding given to me from CFDE has encouraged me to remain very interested and involved in our vital and dynamic profession. I am thankful that other hygienists have taken my lead and have requested and received assistance from the CFDE, and I am hopeful that Canadian dental hygienists will continue to support this worthwhile organization.

Dorothy (Mayers) Phillips

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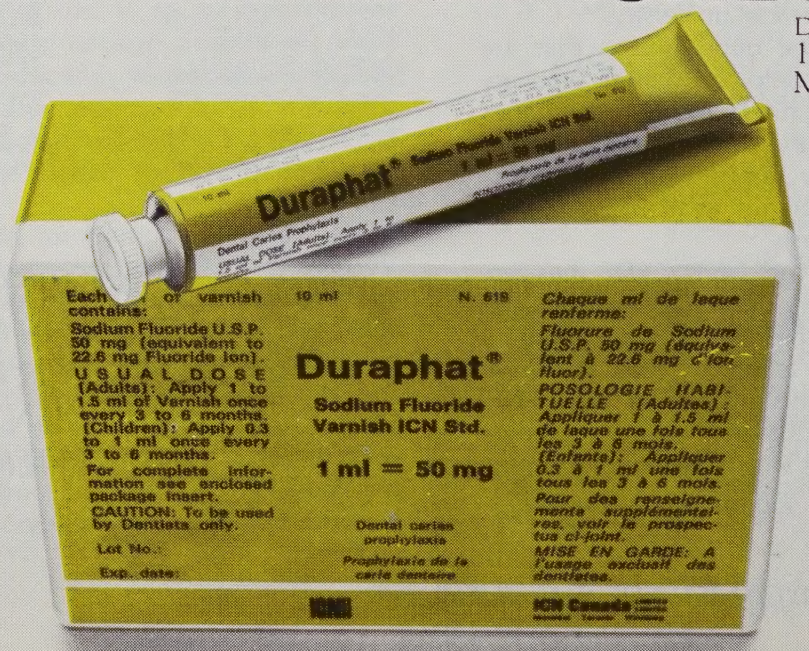

DENTAL HYGIENE EDUCATION, LICENSURE AND PRACTICE IN CANADA

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PROVINCE	REGISTRATION/LICENSURE	PRACTICE
BRITISH COLUMBIA	Completed application with proof of graduation from a dental hygiene school or institution recognized by the Council. Registration fee: $15.00. Annual license fee: $30.00.	Cleaning and polishing the natural and restored surfaces of the teeth beginning at the epithelial attachment, including removal of stains and calcareous deposits; counselling, instruction and demonstration for the maintenance or improvement of dental health; administering first aid; exposing and processing dental radiographs; topical application of anticariogenic agents; examining and recording conditions of the oral cavity; applying emergency or temporary sedative dressings to hard or soft tissues; production of study models, face masks, pre-operative pictures, etc.; fabrication and fitting of removable prosthetic appliances including necessary intra-oral procedures but excluding diagnosis, treatment planning and surgery of the oral tissues; such other duties as may be determined from time to time by the Council.
ALBERTA	Completed application with proof of graduation from a course of study equivalent to that at the University of Alberta. Evaluation of documents by University Co-ordinating Council for fee of $10.00. No registration or license fee.	A registered dental hygienist may perform those duties taught to a graduate in dental hygiene in the Faculty of Dentistry at the University of Alberta.
SASKATCHEWAN	Registration without further examination for graduates of dental hygiene schools recognized and approved by the Canadian Dental Association; others must pass examinations prescribed by the University of Saskatchewan. Registration fee: $25.00. Annual license fee: $5.00.	A dental hygienist may perform any duties delegated by a dentist who must be responsible for the standards and quality of dental treatment rendered. These duties shall not include oral diagnosis and treatment planning, prescribing of drugs, injection of drugs, cutting of hard or soft tissue, fabrication of prosthetic or orthodontic appliances requiring the skill and knowledge of a qualified dentist.
MANITOBA	Completed application with proof of graduation from an accredited Canadian school of dental hygiene or American Dental Association National Board (Dental Hygiene) Certificate. Registration fee: $25.00. Annual license fee: $2.00.	Dental hygienists may perform any clinical duty for which they have been formally trained in a course of study approved by the Manitoba Dental Association. Duties beyond dental health education, making radiographs, prophylaxis including scaling and the topical application of fluoride include (but are not limited to) the following: taking medical and dental histories; tests for caries activity and gingival inflammation; impressions for study models; preliminary and final impressions from which dentures can be fabricated; application of sealants; diet survey, analysis and counselling; placement of periodontal dressings; suture removal; desensitizing procedures; fabrication of mouth guards; removal of excess cement from the teeth; application of topical anesthetics; administration of emergency care; placement and removal of rubber dams; placement and removal of matrix bands; placement of temporary restorations; placement, carving and finishing of plastic restorations; overhang removal.

PROVINCE	REGISTRATION/LICENSURE	PRACTICE
ONTARIO	Completed application with proof of graduation from an Ontario school of dental hygiene (no examination required) or graduation from an accredited dental hygiene program outside Ontario (examination required). Examination fee: $75.00. Registration fee: $25.00. Annual license fee: $50.00.	The following duties may be performed by dental hygienists following training at a recognized institution; preliminary examination of patients and provision to the dentist of dental health data; scaling and polishing of teeth; topical application of anticariogenic agents; patient and community education in oral health; exposure, processing and mounting of radiographs and photographs; performing extraoral duties designated by the dentist; polishing amalgam fillings; applying displacement dressings; application of fissure sealants; taking impressions of teeth for study models; placement and removal of rubber dams; removal of sutures; placement, finishing and polishing of amalgam, silicate and resin restorations; placement and removal of matrix bands; placement of cavity liners in a tooth where the pulp has not been exposed; gingival retraction for impression taking; fitting and removal of orthodontic bands; separating of teeth prior to banding by dentist; cementation of temporary crowns previously fitted by a dentist; placing of temporary fillings.
QUEBEC	Completed application with proof of graduation from a recognized school of dental hygiene. Registration fee: $25.00. Annual license fee: $75.00.	Dental health education; exposing and processing radiographs; scaling; root planing; polishing; topical application of anticariogenic agents; examining and recording conditions of the oral cavity; impressions; completion of plastic restorative procedures after cavity has been prepared by dentist.
NEW BRUNSWICK	Completed application with proof of graduation from a recognized dental hygiene school. Registration fee determined by Council. Annual license fee: $10.00.	Traditional dental hygiene duties. Any other duties that are generally recognized as the duties of a dental hygienist. (New act now before New Brunswick Parliament.)
PRINCE EDWARD ISLAND	Completed application with proof of graduation from a two-year course of study approved by the Council. Registration fee: $10.00. Annual license fee: $5.00.	All functions of the practice of dentistry for which the dental hygienist has been trained except diagnosis and treatment planning; prescribing or advising the use of any prosthesis; providing facilities for fabrication, fitting, repair, etc. of such prostheses; severing or cutting hard or soft tissues; prescribing or administering drugs.
NOVA SCOTIA	Completed application with proof of graduation from a two-year course of study for dental hygiene approved by the Board. Registration fee: $25.00. Annual license fee: $10.00.	A registered dental hygienist may perform any duties for which he has been trained except diagnosis and treatment planning; prescribing or advising the use of any prosthesis; providing facilities for fabrication, fitting, repair, etc. of such prostheses; severing or cutting hard or soft tissues; prescribing or administering drugs.
NEWFOUNDLAND	Completed application with proof of graduation from a prescribed course of study for dental hygiene recognized by the Board. The Board may prescribe examinations for registration if for any reason it may decide to do so. Registration fee: $10.00. Annual license fee: $10.00.	Removal of stains and calcareous deposits from the surface of the teeth including the gingival crevices; teaching of oral hygiene; administration of first aid; taking x-rays; providing the usual services of a dental nurse; topical application to the teeth of caries-preventive medicaments; completion of the post tooth-cutting portion of plastic restorative procedures by hygienists with advanced training in this field; any measure of a specific nature determined by the Association.

LICENSING BODIES

College of Dental Surgeons of British Columbia
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DENTAL HYGIENE IN CANADA: A CHANGING SCENE

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MARJORIE J. DIMITRI, R.D.H.

Mrs. Voris is an Assistant Professor and Supervisor of the U.B.C. Program of Dental Hygiene and Chairman of the CDHA Education Committee.

Mrs. Dimitri is a Senior Instructor for the U.B.C. Program of Dental Hygiene and Immediate Past President of the CDHA.

INTRODUCTION

Recent advances in dental research and a growing awareness of the necessity for the prevention of dental disease have placed increased demands on the dental profession in the delivery of dental services to the Canadian people. There is general consensus among dental practitioners and others in Canada that the profession at the present time is able to provide about one-third of the total dental treatment services required. These services are provided largely in a private enterprise setting. Concern for this aspect of the provision of health care is heightened by the knowledge that prepaid dental care in the form of a government-sponsored children's dental health service is being contemplated and also that there are a number of other social and economic factors likely to lead to an increasing level of demand for dental services by the general public.(1) As a result, the manner in which dental services are provided and to some extent the nature of the services themselves are being thoroughly investigated.

In Canada, all matters relating to education and health including dentistry are provincial responsibilities; hence, Canada has a variety of dental care delivery systems and nearly every known type of operating dental auxiliary functioning somewhere within her borders.(2) Prior to 1970, there were four generally accepted categories of dental personnel: dentists, dental hygienists, dental assistants and dental laboratory technicians. In addition, dental mechanics, New Zealand type dental nurses and Canadian Armed Forces dental therapists could practise in restricted Canadian settings.(1) Within the last five years, certain provinces have delegated additional functions to existing dental auxiliaries, some have created new types of operating auxiliaries and others have given recognition to those auxiliaries previously restricted by their geographical or organizational affiliation.

Dental hygienists were the first group of operating dental auxiliaries recognized and licensed to practice in Canada. The first dental hygiene educational program was established at the University of Toronto, Ontario, in 1951.(3) Currently, there are seven dental hygiene programs that have been evaluated and awarded the accreditation status of "approval" by the Council on Education of the Canadian Dental Association. Six of these programs are located within faculties of dentistry and the other is the military based program of the Canadian Armed Forces.(4) In addition, numerous other programs are being developed and implemented throughout the country in non-dental school settings.

PROFILE OF THE DENTAL HYGIENIST IN CANADA

The "traditional" dental hygienist in Canada is most likely to reside in an urban area and is a married female between twenty and thirty years of age with no children. She received her diploma in dental hygiene from a Canadian school and has taken no further academic courses. She is working for a private dental practitioner, has attended one or more continuing education courses, conventions or conferences in the past year and is a member of both a provincial and the national dental hygiene organization.(5) In private practice, this dental hygienist generally performs such functions as the removal of accretions and stains from the natural and restored surfaces of the teeth, topical applications of anticariogenic agents, dental health education and exposing dental radiographs. In addition, procedures such as root planing and curettage as well as margination are routinely performed as an integral part of dental hygiene therapy in some provinces.

The "expanded function" dental hygienist is most likely to have graduated within the last five years from Dalhousie University, University of Manitoba or the University of Montreal. This dental hygienist probably practises in a public health setting although

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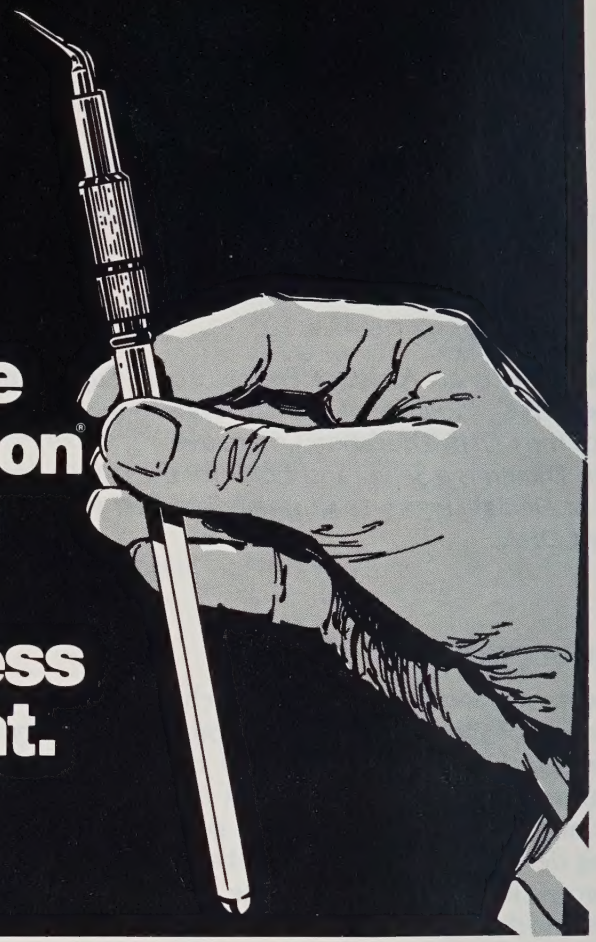

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opportunities for employment in the private sector of some provinces are increasing. The major expanded functions performed are placement and carving of plastic restorations in prepared cavities. In addition, a number of procedures in prosthetic dentistry have been added to the hygienist's scope of treatment in some provinces. Diagnosis and treatment planning, cutting of hard or soft tissues, and the administration of drugs are currently prohibited in all provinces.

EMPLOYMENT DATA

In 1973, the Manpower and Utilization Committee of the Canadian Dental Hygienists' Association circulated a questionnaire to all known dental hygienists in Canada. Eighty percent of the respondents to this survey were employed either full or part time. Seventy-four percent of those employed worked in general or specialty practices while the other twenty-six percent were involved in public health, dental auxiliary education, hospital settings or research.(5) At the present time, employment opportunities other than private practice are becoming increasingly more available, mainly due to the development and implementation of publicly financed dental care programs.

All provinces require that the dental hygienist work under the supervision or direction of a dentist. Interpretation of "supervision" differs so some areas require the dentist to be on the premises at all times, others merely the majority of the time. A few provinces limit the dentist to employing only one dental hygienist at a time, others make no mention of a limit.

As of 1974, dental hygiene registration and licensure are the responsibilities of the dental profession in all provinces except Quebec where recent legislation has provided for the incorporation of all dental auxiliaries. In addition, other provinces are considering revising registration and/or licensure procedures. In some of the provinces, there is dental hygiene representation on the licensing boards but with the exception of Manitoba, this representation is a non-voting capacity. Requirements for registration generally include graduation from an accredited dental hygiene program or from a course of study equal to that of a specified university or college. Presently, portability within the country is somewhat restricted but consideration is being given to the establishment of a mechanism which would ensure reciprocity between provincial licensing bodies.

FUTURE TRENDS

In early 1974, delegates representing all phases of the dental and dental auxiliary professions convened for the Conference on Dental Auxiliaries sponsored by the Canadian Dental Association. This conference supplied the first major link in communication among the members of the Canadian dental team. It was an extremely significant meeting and major points to emerge were: the need for alignment of provincial legislation on auxiliary functions; the development of new educational patterns to provide the necessary vertical and lateral career development of auxiliary personnel; joint education of dental students and auxiliaries to teach full utilization of auxiliary skills in dental practice; national accreditation of all programs to achieve Canada wide mobility of trained people; and education of the public to accept care given in the hands of an auxiliary.(6) Since this conference, much attention has been focussed on many of the problem areas involving dental auxiliaries and attempts are being made to formulate both short and long range goals for their education, licensure and practice.

In conclusion, what the exact structure of the Canadian dental care delivery team will be in the future is not yet clear. In the past, the dental hygienist has proven to be a viable entity. The fact that our numbers have multiplied, our training has increased in quality and quantity, and our role has expanded and is being expanded further, is a positive indication of our effectiveness in the dental health field.(7) By asking for and accepting more responsibility, we are assured of continued involvement and growth in one way or another within the health care concept of tomorrow.

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(This paper was presented by Mrs. Voris at the Fifth International Symposium on Dental Hygiene in Tokyo, Japan, July 1975.)

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*The ILWU-PMA Dental Program, Reports of Councils and Bureaus, J. Amer. Dent. Assoc. *58*:127, Feb. 1959.

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TEACHING SELF-EXAMINATION OF THE HEAD AND NECK: ANOTHER ASPECT OF PREVENTIVE DENTISTRY

RICHARD T. GLASS, D.D.S., PhD.
MELLISIA ABLA, R.D.H.
JEANNIE WHEATLEY, R.D.H.

Dentistry has played an important role in directing the attention of the health profession toward the prevention of disease. Glaring by their absence have been measures that the patient might use to decrease morbidity and mortality from neoplastic diseases of the head and neck. A simplified self-examination procedure can be taught to the patient as a part of the preventive program. It is hoped that this procedure would permit earlier detection and treatment of both neoplastic and non-neoplastic diseases of the head and neck area.

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In a recent edition of THE JOURNAL, eight articles dealt in some way with the prevention of oral disease. These articles included general information on patient education,(1,2) the role of nutritional counselling in the prevention of dental caries and periodontal disease,(3) the use of fluorides and sealant in dental caries prevention,(4,6) the properties of mouthguard materials to prevent traumatic loss of teeth,(7) and the identification of tooth crowding with emphasis on preventive orthodontics.(8) This emphasis on prevention is typical of the modern dental profession and an aspect of which all dentists should feel justifiably proud. However, glaring by its absence is the emphasis on the prevention of morbidity and mortality from neoplastic diseases of the oral cavity and the remainder of the head and neck. A computer search of the literature reveals only eight recent publications that deal with the subject of early detection of such disease, and yet the statistics for oral cancer dictate that this lack of emphasis should be corrected. Recent statistics estimate that 7,500 people die of oral cancer each year. If cancer of the larynx and lymphomas is included as head and neck cancers, the estimate is 30,350 people. For each year the incidence of new cases is 15,100 people with oral cancer and 47,000 people with cancer of the head and neck.(9)

For the past ten years, many physicians have been teaching breast self-examination for the detection of cancer. Haagensen(10) has pointed out that it is possibly more important to teach women how to examine their own breasts than it is to teach the technique of breast examination to physicians. His findings suggest that 90% or more of all breast malignancies are discovered by patients themselves. Thiessen(11) said that although breast self-examination should be taught to patients, there are inherent difficulties with its effectiveness caused by the "gross physical characteristics of the organ to be examined." In contradistinction to the breast, the oral cavity and head and neck are an easily accessible area that can be readily examined. A simplified technique of self-examination of the oral cavity and head and neck is presented.

Self-examination Technique

As with other techniques taught to patients, simplicity is the key to self-examination of the oral cavity and head and neck. We have found it helpful to teach the procedure as a part of the overall preventive education program. The patient is either given a hand mirror or, preferably, is seated in front of a large mirror. The patient is asked to go through the technique under the watchful eye of the instructor. The instructor continually points out normal color, texture and anatomy as the patient examines each area. The abnormalities for which the patient is examining can be reduced to lumps and bumps, and red, white, or blue color changes in the mucosa or skin. The patient can be given a printed order of examination, but an awareness of all areas to be examined is of greater importance.

Examination

The self-examination procedure is divided into eight steps.

— Facial symmetry. The patient is asked to look in the mirror and, with no facial expression, to look for a balance in features and general color (Fig 1). She is asked to note and palpate any raised areas such as nevi, pimples, or scars (Fig 2).

— Lips. The patient is asked to pull the lower lip down and to note the color and texture (Fig 3). The procedure is repeated for the upper lip.

— Gingiva. The patient is asked to examine the gingiva by exposing the areas (Fig 4). The normal color and stippling are pointed out to the patient.

— Buccal mucosa. The patient is asked to place two fingers into the buccal vestibule and to expose the area (Fig 5), noting the color and texture. Because this area is so often involved in cheek biting, the linea alba can be pointed out as the type of color deviation that the patient should note. The orifice of the parotid salivary gland duct should be pointed out.

— Tongue and floor of the mouth. The patient is asked to check the mobility of the tongue by moving it from one corner of the mouth to the other (Fig 6). The patient is given a 2x2 gauge and is asked to view the lateral borders of the tongue as far back as she can see, and the floor of the mouth. The color and areas of vascularity are pointed out, as well as the orifice of the submandibular salivary gland duct. In addition to this visual examination, the patient is asked to palpate the floor of the mouth, and the dorsum and lateral borders of the tongue, feeling for lumps and bumps (Fig 7).

— Palate. The patient is asked to examine the palate (Fig 8). She notes the color and the presence of masses. Palatal tori and rugae should be pointed out.

— Lateral neck. The purpose of this examination is to palpate the lymph nodes associated with the sternocleidomastoid muscle. The patient is asked to turn her head away from the side being examined or to grimace, making the muscle apparent. She then palpates up and down the anterior aspect of the muscle, feeling for lumps and bumps (Fig 9).

— Trachea. The patient is asked to place her fingers around the thyroid cartilage (Adam's apple) and move it from one side to the other (Fig 10). There may be crepitation associated with movement but there should be good lateral mobility. While still grasping the cartilage, the patient is asked to swallow. The cartilage should move superiorly.

After the initial examination, the patient should be aware of what is normal for her. She then is instructed to perform the examination once a month. It should be emphasized that abnormalities will appear as raised lesions (lumps or bumps) or as changes in color (red, white, or blue). The patient is told to observe any lesion for two weeks and if healing has not occurred within this time span, to call the dentist immediately. The patient is also told that although the instruction session consumed a fairly long time, the procedure can be performed rapidly in the patient's own home.

Discussion

Hecker(12) has pointed out that symptomatic disease represents the tip of an iceberg and that decades of silent development of the disease is the part below the metaphorical waterline. Those dentists who are concerned about detecting the iceberg below the surface rely on preventive measures; so it is with the early detection of head and neck malignancies. If the example of breast self-examination is used, it seems that the same type of early detection might be generated from oral self-examination. This in no way obviates the dentist's responsibility for thorough clinical examination on a periodic basis with currently accepted techniques.(13-15) It has been pointed out repeatedly that self-examination is only an adjunct to early detection and in no way lessens the importance of periodic professional examination.(11, 16-19)

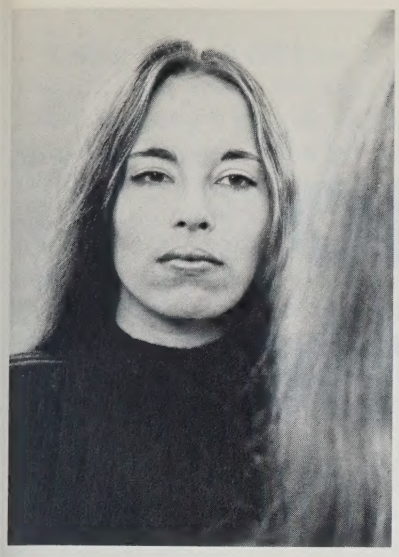


Fig 1 — Examination of facial symmetry.

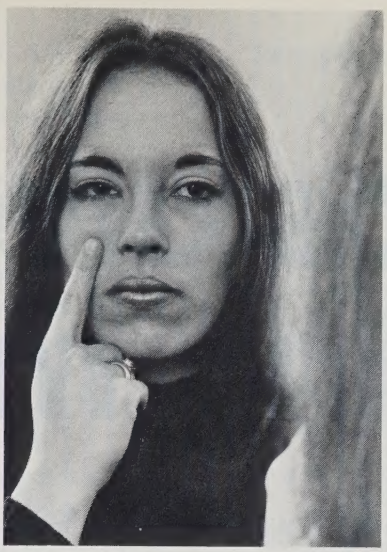


Fig 2 — Palpation of face.

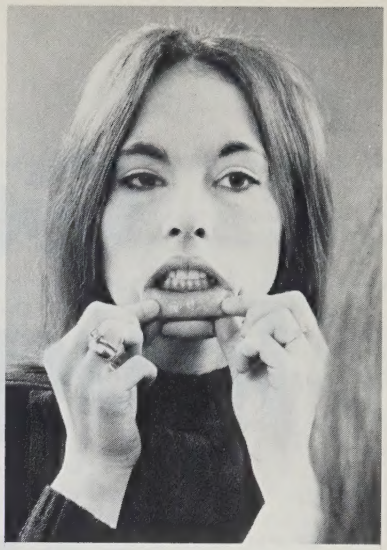


Fig 3 — Examination of lips.

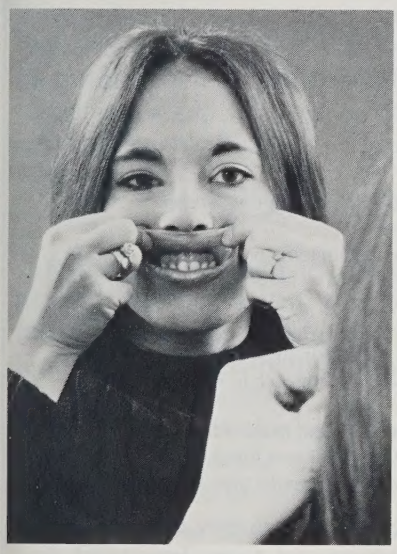
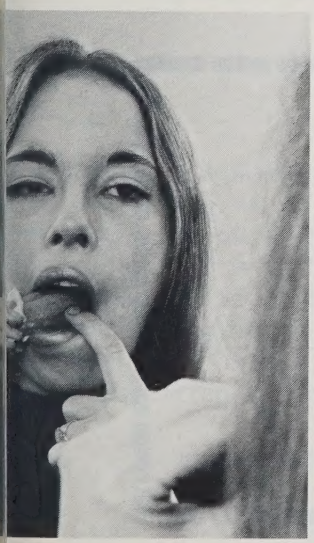


Fig 4 — Examination of gingiva.

Fig 5 — Examination of buccal mucosa.

Fig 6 — Examination of tongue and floor of mouth.



7 — Palpation of tongue.

Fig 8 — Examination of palate.

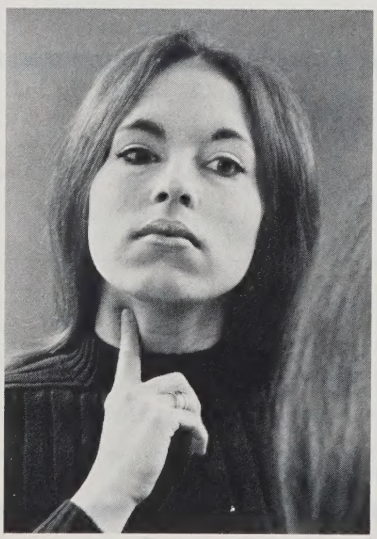


Fig 9 — Examination of lateral neck.

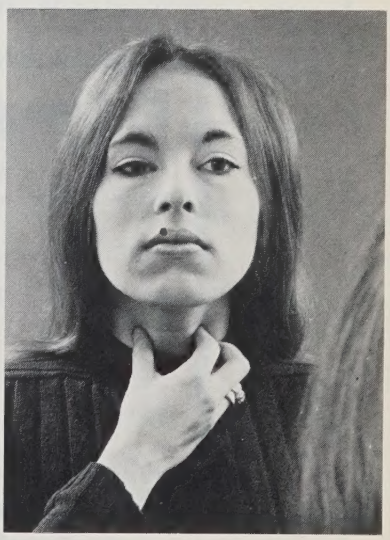


Fig 10 — Examination of trachea.

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Thiessen(11) developed a system of risk factors that dictates which females must be well trained in self-examination. His risk factors include the patient's age, the anatomy of the breast, and the familial incidence of breast cancer. Storer(20) pointed out that the group of patients with the highest risk of development of oral cancer are those in their sixth through eighth decade of life. He noted that these are also the patients who tend to be edentulous and do not seek routine dental care. Oral self-examination in this group of patients is of greatest importance.

Use of the examples derived from the examination for breast cancer also will be of aid in determining the role of the dentist and the auxiliaries in the early detection of oral malignancies. Strax(21) has pointed out that trained paramedical personnel have been used in all phases of breast screening including interview, clinical examination, and teaching the technique of self-examination. It seems reasonable to suggest that well-trained dental assistants or dental hygienists could be used to do initial interviews and clinical examination on lesions which the patients find.

Reference is made in the technique to the time period that the patient should wait after a lesion is found. The point should be emphasized that if the lesion has not completely healed within two weeks, the patient should be seen by the dentist. One problem found in the breast self-examination system has been the delay of from an average of eight weeks(22) to 5.6 months(23) between the finding of a lesion and the seeking of treatment. Prompt diagnosis and treatment must be sought by the patient if any self-examination system is to be effective.

Summary

A technique for self-examination of the oral cavity and head and neck has been presented. The technique is simple in its design and yet thorough in its scope. The need for such an examination is established on the incidence of malignancies in this area and the importance of early detection, diagnosis, and treatment. The role of dental auxiliaries and the role of risk factors are discussed.

The authors thank Mrs. Elaine Taylor for acting as a subject for photography and Mrs. Donna Stanfield for her handling of the manuscript.

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BRITISH COLUMBIA

The Academy of General Dentistry

September 11, 1975	Clinical Dental Photography (Dr. C. Freehe)
June 4, 1976	New Approaches to Creative Management in Dentistry (Drs. Newmark)

Information on the above courses may be obtained from Dr. M. Balanko, 1955 West Broadway, Vancouver, B.C. V6J 1Z5.

Vancouver and District Dental Society

October 7, 1975	Preserving Teeth for a Lifetime (Dr. M. Markley)
December 5 & 6, 1975	Mid-Winter Clinic (Faculty of Dentistry, U.B.C.)
January 30 & 31, 1976	Stress from Practice: A two-day seminar (Dr. O. Reed, Dr. C. Reider and Mr. W. Southam)
March 2, 1976	The New Era in Restorative Dental Materials (Dr. R. Phillips)
April 6 & 7, 1976	The Correlation of Periodontal, Occlusal and Restorative Therapeutics in a General Practice (Dr. R. Yuodelis)

Information on the above courses may be obtained from Vancouver and District Dental Society Office, c/o British Columbia College of Dental Surgeons, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4.

University of British Columbia, Faculty of Dentistry

October 25 & 26, 1975	Fixed Prosthodontic-Periodontic Relationships in Contemporary Dental Practice (Dr. H. Colman)
November 14, 1975	Dental Caries (Dr. A. Richardson and Dr. R. Roydhouse)
November 22, 1975	Medical Emergencies in the Dental Office (Dr. G.B. Ryder)
November 29 & 30, 1975	Hypnosis in Dental Practice (Dr. R. Yorsh)
January 23, 2976	Assessment of Dental Patients (Dr. R.W.T. Myall)
February 7, 1976	Gingival and Muco-gingival Surgical Procedures in Periodontics (Dr. N. Basaraba)
March 13, 1976	Space Management of the Primary and Mixed Dentition (Dr. D. Kennedy and Dr. M. Wainwright)
April 24 to 28, 1976	Nitrous Oxide-Oxygen Sedation (Dr. D. Donaldson)
May 8, 1976	Quality Control in Dentistry and the Delivery of Dental Services by Auxiliaries: The Philadelphia Experience (Dr. R. Soricelli)

Information on the above courses may be obtained from Dr. M.F. Williamson, Director, Continuing Dental Education, Faculty of Dentistry, P.A. Woodward Instructional Resources Centre, University of British Columbia, Vancouver, B.C.

ALBERTA

Calgary and District Dental Society

October 6, 1975	New Frontiers in Practice Management (Dr. H.P. Jacobi)
January 5, 1976	The Role of Exercise in our Contemporary Society (Dr. K.H. Cooper)
February 2, 1976	Developing Effective Occlusal Treatment Skills (Dr. N.F. Guichet)
March 1, 1976	Conservation of Esthetics in Restorative Dentistry (Dr. H.L. Colman)
April 5, 1976	An Effective and Efficient Pedodontic Practice (Dr. A.G. Kluzak)

Information on the above courses may be obtained from Dr. M. Wasylchuk, 480 Palliser Square East, Calgary, Alberta T2P 1J9.

Edmonton and District Dental Society

October 7, 1975	New Frontiers in Practice Management (Dr. H.P. Jacobi)
February 3, 1976	Developing Effective Occlusal Treatment Skills (Dr. N.F. Guichet)
March 2, 1976	Conservation of Esthetics in Restorative Dentistry (Dr. H.L. Colman)

Information on the above courses may be obtained from Dr. W.G. Mabey, 701 Baker Centre, Edmonton, Alberta T5J 1G4.

University of Alberta, Faculty of Dentistry

September 25 to 27, 1975	Occlusion in Everyday Dentistry (Dr. N.F. Guichet)
October 2 & 3, 1975	Nutrition: Workshop and Lectures (Mrs. K. Davidson)
December 5 & 6, 1975	Conceptual Strategies for Teaching Effective Home Care (Dr. H.D. Thornbury, E. Thornbury, R.D.H.)

Information on the above courses may be obtained from Dr. R.C. McClelland, Director, Continuing Dental Education, Faculty of Dentistry, University of Alberta, Edmonton, Alberta T6G 2H7.

The Academy of General Dentistry

March 26, 1976	Occlusion in the Preventive Practice, Calgary (Dr. C.E. Rieder)
March 27, 1976	Occlusion in the Preventive Practice, Edmonton (Dr. C.E. Rieder)

Information on the above courses may be obtained from Dr. R.A. Langmaid, 662 Professional Building, Edmonton, Alberta.

SASKATCHEWAN

September 12 & 13, 1975	Nutrition in Oral Health and Disease (Dr. E. Cheraskin)
April, 1976	Pedodontics
May 7 & 8, 1976	Advancements in Restorative Dentistry (Dr. G. Christensen)

Information on the above courses may be obtained from Dr. T.E. Donovan, 205 McCallum Hill Building, Regina, Saskatchewan S4P 2G6.

MANITOBA

September 26 or 27, 1975	Dental Emergencies and Medical Aspects of Dental Practice (Dr. Claman and Dr. Foster)
October 4, 1975	Fixed Prosthodontic-Periodontal Relationships in the Restoratively Oriented Dental Practice (Dr. H. Colman)
October 6, 1975	Esthetic Dentistry (Dr. H. Colman)
October 24 & 25, 1975	The Why's and How To's of Management and Prevention in the Accelerated Practice (Dr. O. Reed)
November 15, 1975	Understanding and Treating the Pulpal Periodontal Lesions (Dr. C. Tornick)
November 17, 1975	Trauma, Endodontics and the Young Patient (Dr. C. Tornick)
November 21, 1975	Diagnosis and Treatment of Occlusal Disturbances (Dr. S. Borden and Dr. P. Jackin)
December, 1975	A Rational Basis for Clinical Practice: Basic Sciences as Related to Clinical Dentistry (Brig. Gen. S.N. Bhaskar)
January 16, 1976	Restorative Techniques for Pre-school and Young School Children (Dr. Cross and Dr. Vodrey)
January 30, 1976	A total concept of Periodontal Therapy for the Dental Health Team. The Now Profession — Preventive Dentistry (Dr. H. Corn)
January 31, 1976	Endo, Perio, Ortho, Rehabilitation of the Existing Dental Structures Prior to a Restorative Program (Dr. H. Corn)
February 7, 1976	What's New in Operative Dentistry (Dr. R. Jordon)
February 9, 1976	Anterior Resin Restorative Dentistry (Dr. R. Jordon)
March 6, 1976	Review of Common Oral Muscular Lesions (Dr. Baker and Dr. Proctor)
April 5, 1976	Interpretive Radiology in Dental Practice (Dr. Baker)
April 24, 1976	Review of Current Therapeutics and Drug Prescribing (Dr. Cole)
May 14, 1976	Nutrition: Caries, Preventive Dentistry, Nutritional Counselling (Dr. E.J. Zebrowski)

Information on the above courses may be obtained from the Manitoba Dental Association, 308 Kennedy Street, Winnipeg, Manitoba R3B 2M6.

ONTARIO

University of Toronto, Faculty of Dentistry

October 27, 1975	Emergency Measures (Dr. R.S. Locke)
November 3 to 5, 1975	Dental Care for the Handicapped (Dr. J.A. Hargreaves)
November 12 to 14, 1975	Recent Developments in Dental Materials (Dr. D.C. Smith)
December 11 & 12, 1975	The Treatment of the Patient with Maxillofacial Defects (Dr. G.A. Zarb)
March 3, 10, 17, 24, 31 and April 21, 1976	Periodontics (Dr. J.E. Speck)
March 22 to 24, 1976	Oral Medicine, Pathology and Radiology (Dr. J.H.P. Main)
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September 27 & 28, 1975	Anterior Restorations: A New Era of Operative Dentistry
October 10, 1975	Psychological Aspects of Facial Pain
October 24 & 25, 1975	Common Oral Diseases: A Refresher Course for the General Practitioner
October 24 & 25, 1976	Radiology for Dental Assistants
November 7 to 10, 1975	Periodontics, Oral Diagnosis and Oral Medicine Applied to General Practice
November 13 to 15, 1975	Fundamentals of Occlusion
November 21, 1975	Oral Medicine in General Practice
November 29 & 30, 1975	What's New in Operative Dentistry
January 9 to 12, 1976	Operative Dentistry for the General Practitioner
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February 27, 1976	Radiologic Interpretation
March 5 to 9, 1976	Occlusal Correction of the Natural Dentition, Part I and Treatment of Temperomandibular Joint Pain and Dysfunction
March 12, 1976	Radiographic Technique for the General Practitioner
April 23, 1976	The Temperomandibular Joint and Facial Pain: New Approaches to Diagnosis and Treatment
May 21, 1976	Oral Cancer: A Diagnostic Challenge
May 31 and June 1, 1976	Occlusal Therapy, Part II
June 7 to 9, 1976	Occlusal Anatomy
June 17 & 18, 1976	Orthodontic Diagnosis, Treatment Planning and Appliance Therapy in General Practice

Information on the above courses may be obtained from the Chairman, Committee on Continuing Education, Faculty of Dentistry, The University of Western Ontario, London, Ontario N6A 5B7.

NOVA SCOTIA

Dalhousie University, Faculty of Dentistry

October 24, 1975	Periodontics in Dental Hygiene
November 21 & 22, 1975	Periodontics
January, 1976	Basic Operative Techniques
February, 1976	Drugs in Dentistry (Field Course)
May 17 & 18, 1976	Post-College Assembly

Information on the above courses may be obtained from Mrs. Mancy Kinsman, Secretary, Continuing Education in Dentistry, Dalhousie University, Halifax, Nova Scotia.

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THE CANADIAN DENTAL HYGIENIST

L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1975 HIVER
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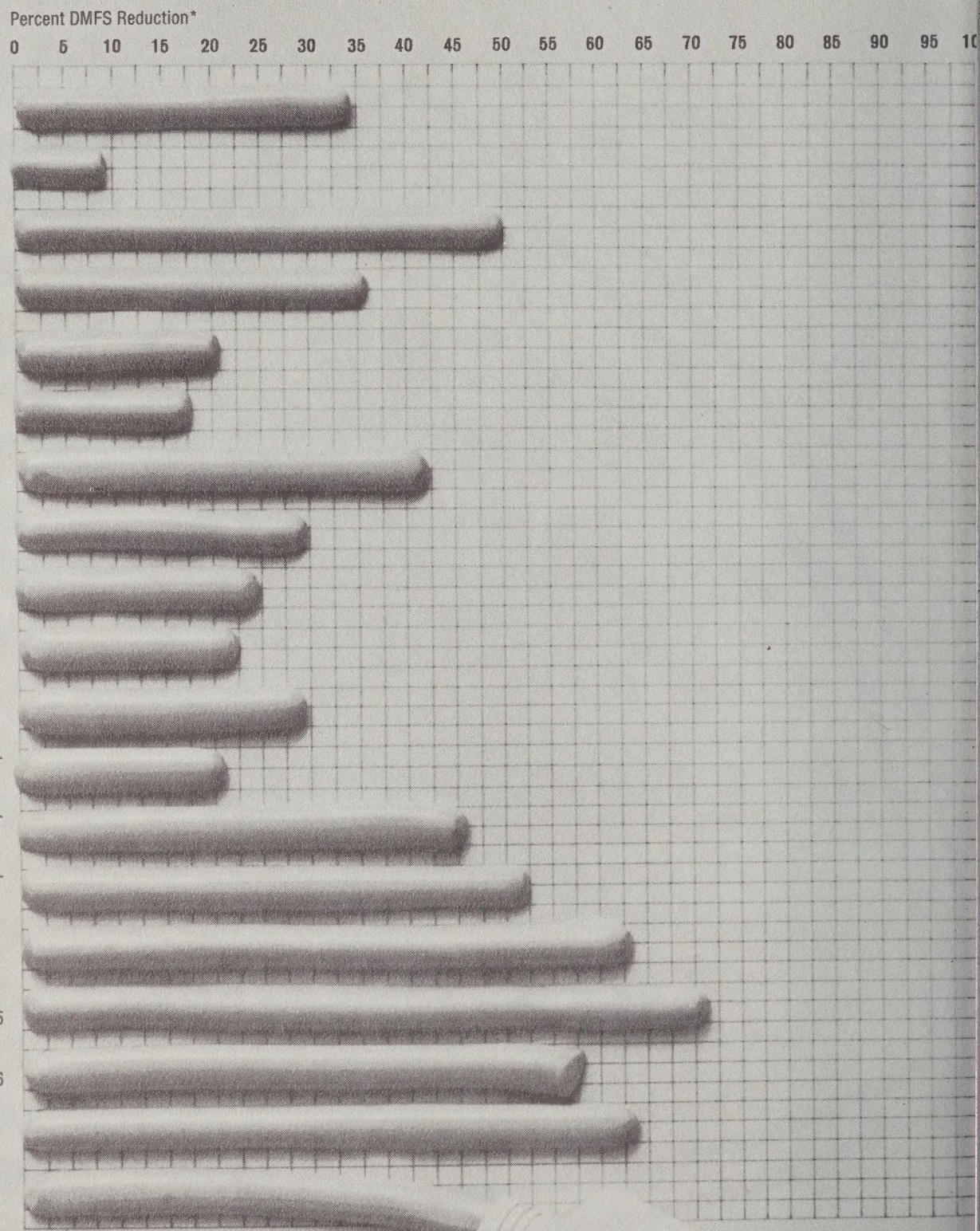

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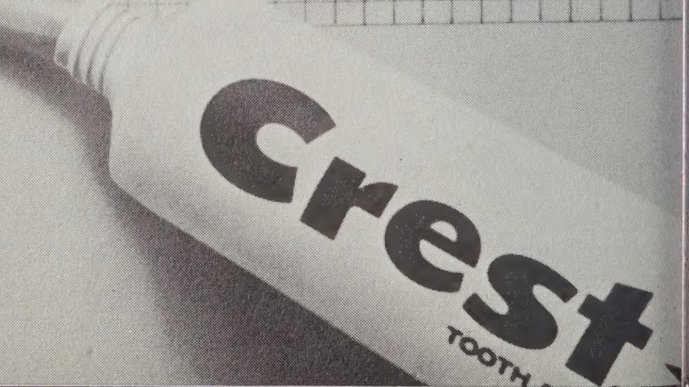

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CDHA BULLETIN ACHD

INTER 1975 HIVER

VOLUME 9, No. 4

DENTAL HEALTH MONTH IN CANADA

February 1976 has been designated as Dental Health Month in Canada and is the kick-off point for a five year educational program involving the profession, the public, the dental trade, governments and the press. The slogan selected by the CDA Task Force on Preventive Dentistry for the overall program is "I'M A BELIEVER" which will be tied to a different theme each year. In 1976, it is "I'M A BELIEVER — CLEAN TEETH ARE FOR KEEPS!"

Dental Health Month in Canada provides an opportunity for all members of the dental team to participate in specific programs designed to draw the public's attention to the importance of dental health and the prevention of dental disease. Information and planning kits are being prepared by the Canadian Dental Association and will be distributed to provincial chairmen of Dental Health Month committees. All dental hygienists are encouraged to get involved by volunteering their services and actively participating in the various programs being planned in their particular areas.

COMPARISON OF DENTAL FLOSSES

The daily use of either waxed or unwaxed dental floss will significantly reduce bleeding from the interproximal gingival sulci. In this study, unwaxed floss appeared to be slightly more effective than waxed floss. Professional administration of an experimental zirconium silicate-impregnated floss also appeared to bring about a significant reduction in interproximal gingival bleeding.

In the first part of this study, 73 adults were examined to determine the degree of bleeding from their interproximal gingival sulci. Interproximal areas were flossed by the examiner with use of unwaxed dental floss; great care was taken to avoid any iatrogenic damage. As a result of this examination, the number of bleeding and non-bleeding interproximal spaces were recorded for each volunteer. Then four groups were randomly formed: group 1 (18), the control group, continued their usual oral hygiene procedures; group 2 (17) received, in addition to their own home care, daily professional flossing with unwaxed dental floss for eight days; group 3 (17) was like group 2 except that waxed floss was used; in group 4, the professional flossing was done with an experimental zirconium silicate-impregnated floss. A final examination was performed on the ninth day by the same examiner.

Sixty adults participated in the second part of the study. After the initial examination, they were separated into three groups: group 1, controls; group 2, unwaxed floss; group 3, waxed floss. The two experimental groups received instruction on the proper use of floss and were requested to floss at home once a day for the ensuing eight days; on the ninth day, the final examination was conducted.

The control groups showed insignificant changes in gingival sulcular bleeding. Reductions resulting from the professional flossing were: waxed floss, 44.2%; unwaxed, 74.5%; zirconium silicate-impregnated, 76.5%. Reductions resulting from self-administered flossing were: waxed floss, 57.7%; unwaxed, 76.4%. Unwaxed floss appeared more effective, perhaps because as this floss splays, it covers a larger tooth surface area. Also, patients and dentists may be more proficient in carrying the unwaxed floss into the gingival crevice.

Although use of the zirconium silicate-impregnated floss resulted in a slightly greater reduction in gingival hemorrhage, this floss is of limited value in a large scale plaque control program because it is designed for use only in the dental office. No harmful effects were observed from any of the floss. (Carter, Harold G.; Barnes, George P.; Radentz, William H.; Levin, Marvin P.; and Bhaskar, Surindar N.; *Virgina Dental Journal*).

Dental Abstracts
American Dental Association

FIRST LIFE MEMBER ELECTED

You've come a long way, baby.

Mrs. Jo Gardner of Vancouver, B.C., was elected as the first Life Member of the Canadian Dental Hygienists' Association during the 1975 meeting of the Board of Directors. Jo can well serve as a model for all dental hygienists. She has been active at both the provincial and national levels and now has the honor of being a Life Member of both the BCDHA and the CDHA. She is a Past President of the Association and since 1968, has served as Chairman of the Membership Committee.

Jo, who is a native of Spokane, Washington, received her diploma in dental hygiene from the University of Oregon. For the past six years, she has been an instructor for the Program of Dental Hygiene at U.B.C. Prior to this appointment, she was employed in private practice for twenty years. Jo is also a Past President of the British Columbia Dental Wives' Association and is currently involved with Project Midas, a money-raising undertaking for dental and dental hygiene projects. Besides all these accomplishments, she manages to keep her husband, Dr. Claude Gardner, and her daughter Janice, happy and contented.

NATIONWIDE

DENTAL HEALTH PROMOTION

The Health Protection Branch, Department of National Health and Welfare, Canada offers a number of free publications in French and in English of interest to dental hygienists. To obtain publications or information on the services offered by the Health Protection Branch, contact the Educational Services Consultant in your area as listed below:

ATLANTIC PROVINCES
Consultant, Educational Services
Health Protection Branch
Ralston Building
1557 Hollis Street
Halifax, Nova Scotia B3J 2R7

QUEBEC
Consultant, Educational Services
Health Protection Branch
1001 Boul. St. Laurent
Longueil, Quebec J4K 1C7

ONTARIO
Consultant, Education Services
Health Protection Branch
2301 Midland Avenue
Scarborough, Ontario M1P 4R7

MANITOBA and SASKATCHEWAN
Consultant, Educational Services
Health Protection Branch
310 - 269 Main Street
Winnipeg, Manitoba R3C 1B2

ALBERTA and NORTHWEST TERRITORIES
Consultant, Educational Services
Health Protection Branch
Room 30, Commonwealth Bldg.
9912 - 106 Street
Edmonton, Alberta T5K 1C5

BRITISH COLUMBIA and YUKON
Consultant, Educational Services
Health Protection Branch
6th floor, Customs Building
1001 West Pender Street
Vancouver, British Columbia
V6E 2M7

Educational Services has a publication entitled *Resource Material for Education and Professionals*, July, 1975 with five sections listing and briefly describing the publications available. Section 1 covers foods, Section 2, drugs, cosmetics and devices, Section 3 is for miscellaneous publications and Section 4 describes previous issues of *Dispatch* — a fact sheet published approximately six times a year containing current information on current topics to the Food and Drugs Act and Regulations and to research carried out in Health Protection Branch laboratories. Section 5 lists three available visual aids. Of specific interest to dental hygienists are *Nutrient Value of Some Common Foods, Selected Nutrition Teaching Aids, What's Your Teen-Q?, Your Choice, and Your Food Guide*. An order form is attached to the back of the resource list.

The Health Programs Branch, formerly a major source of dental health promotional publications including the *Dental Health Manual*, pamphlets and posters, has no publications to offer at the present time. However a teacher's guide to be entitled *Dental Health, An Instructional Guide, K-12* has been in the process of development for the past few years and is expected to be available next year in both French and English. For further information contact the dental director in your provincial department of health who has assisted in the validation process.

The Information Directorate produces a series of pamphlets on health and welfare topics which are inserted into the Family Allowance and Old Age Pension cheques mailed monthly from the Department of National Health and Welfare to approximately 5½ million Canadians. The September, 1975 cheque insert was entitled *Brush Up Your Smile!/Souriez a Belles Dents*. An over-run of this and other issues enables additional copies to be obtained from the Information Directorate, Department of National Health and Welfare, Ottawa, Ontario. *Sharon B. French, Ottawa*

BOOK REVIEW

Psychological Readings for the Dental Profession. Brenda Van Zoost, Editor. Chicago, Nelson-Hall Publishers, 1975, 176 pages.

As a Professor of Applied Psychology for dental hygiene students at Dalhousie University in Nova Scotia, Brenda Van Zoost recognized the need for a book to instruct dental personnel in the techniques of motivating patients seeking dental care. The book is composed of a series of brief articles dealing with three main topics.

The first section of the book is concerned with communication techniques and the management of dental patients. The second section deals with management of anxiety, one of our greatest concerns in effectively handling the people we call "patients". In the third section, the hardest task of all, how to motivate patients, is approached in five reviews.

Those who must try to get others to engage in good oral hygiene habits will profit greatly from this text. It is an informative and useful book for all members of the dental health team including recent graduates and experienced practitioners. *Debbie Nider*

MALPRACTICE INSURANCE FOR DENTAL AUXILIARIES

A new broad form of malpractice insurance for dental auxiliaries was developed in 1974 and coverage was automatically extended to all employees of a dentist insured under the Canadian Dental Association Plan including dental hygienists, registered dental nurses/assistants and therapists. However, for those auxiliaries who may be working for a dentist or dentists who do not participate in the program, or who are employed in the dental public health field and not, technically, under the direct control and supervision of a dentist, an individual malpractice policy is recommended. The cost of such a policy is $12.00 per year and coverage may be obtained by sending your name and address along with a cheque to:

Canadian Dental Service Plans, Inc.
230 St. George Street
Toronto, Ontario M5R 2N5

WHO RATES FLUORIDATION TOP PREVENTIVE MEASURE

Dental caries is on the rise, particularly in developing countries, and fluoridation of community water supplies is the most effective way to prevent it, according to a new report from the World Health Organization.

A report from the Director General states that "unless there are overriding technical reasons, no nation can afford the luxury of not fluoridating every central water supply system containing less than the optimum concentration of fluoride."

WHO encouraged each Member State to draw up a national plan for fluoridating its drinking water supplies and to implement the plan as soon as possible. On the request of national health administrations, WHO would try to make available an adequate consultative service either from its own organization or from other sources, such as the International Dental Federation.

The report noted that world population is increasing at a faster rate than is coverage by fluoride programs. While fluoride may be added to school water systems or administered on an individual basis, these methods are less desirable and less effective than fluoridating the communal water supply, according to WHO.

Dentistry In The News, CDA

THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1975 HIVER

VOLUME 9, No. 4

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: $8 per year in Canada and $10 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

The permanent mailing address of the Canadian Dental Hygienists' Association is P.O. Box 8252, Ottawa, Ontario K1J 8H7.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressér aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par annee en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles sont celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du rédacteur.

L'adresse permanente de l'Association des hygiénistes dentaires du Canada est la suivant: P.O. Box 8252, Ottawa, Ontario K1J 3H7.

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MEMBER PUBLICATION
AMERICAN ASSOCIATION OF DENTAL EDITORS
617 6/CN ISSN 0008-3380

CONVENTION '75

"DEVELOPMENTS: Inward and Outward"

ST. JOHN'S, NEWFOUNDLAND
AUGUST 16th TO 20th, 1975

Newfoundland hostesses: Sheila Darcy, Anne Marshall, Moira Lindsay, Pamela Vokey and Gayle O'Driscoll.

Sherita Clark passes on President's gavel to Iris Gold during installation ceremony.

Sherita Clark and Iris Gold are initiated as "Newfies" during "Mug-Up".

Jo Gardner, first CDHA Life Member, is congratulated by Linda Zambolin.

CONVENTION HIGHLIGHTS AND BOARD TRANSACTIONS

St. John's, Newfoundland was the venue of the 12th Annual Session of the Canadian Dental Hygienists' Association in August. The theme of the convention was "Developments: Inward and Outward" and featured speakers included: Judy Puhl and Pat Johnson, "Dental Hygienists Are People Too"; Dr. Noel Andrews, "Periodontics in General Practice"; Joan Conklin, "The Career Options System — What's It All About?"; Dr. Eric Spohn, "The Changing Field of Dental Auxiliaries Throughout North America"; and Dr. Keith Davey, "An Arctic Adventure in Dentistry".

Besides offering many outstanding scientific sessions, the convention program provided ample opportunity for socializing, relaxing and sight-seeing. The members of the Convention Committee as well as the Newfoundland hostesses are to be congratulated. Their efforts and hospitality were greatly appreciated by all those who attended.

Prior to the convention, the CDHA Board of Directors convened for their Annual Meeting. Members of the Board present were: Sherita Clark, President; Iris Gold, President-elect; Jane Costigane, First Vice-President; Marjorie Dimitri, Immediate Past President; Sharon Pitchford, Secretary; Ailsa Wood, Treasurer; Mary Bland, Jo Gardner, British Columbia Delegates; Molly Moore, Linda Risdon, Alberta Delegates; Charlene Hammill, Saskatchewan Delegate; Diane Girardin, Manitoba Delegate; Roberta Adamson, Joan LeBreton, Denise Lyons, Linda McCance, Ontario Delegates; Linda Zambolin, Nova Scotia Delegate; Francis Piercey, Prince Edward Island Delegate; and Rhona Rubin, New Brunswick Delegate.

Also in attendance were: Carol Kline, Chairman, Manpower and Utilization Committee; Pat Johnson, Chairman, Dental Hygiene Data Bank Committee; Diane Dyer, Daphne Cringan, 1975 Convention Co-Chairmen; Anne Marshall, representative from the Newfoundland Dental Hygienists' Association; and Anne Brownrigg, Dunn's Secretarial Services.

The lengthy agenda was discussed and the following summary highlights some of the action taken during the meeting.

- Mrs. Anne Brownrigg of Dunn's Secretarial Services was appointed as Executive Secretary of the Association.
- The CNA Assurance "Dental Auxiliaries Group Income Replacement Plan" was endorsed.
- Mrs. Jo Gardner of Vancouver was made a Life Member of the Association.
- Amendments to the Constitutions and By-laws of the Manitoba Dental Hygienists' Association, the New Brunswick Dental Hygienists' Association and the British Columbia Dental Hygienists' Association were approved.
- Editorial Policies pertaining to the publication of the journal were approved.
- Membership fees were increased as follows:
  Active — $30.00 if paid prior to January 31st; $35.00 if paid after January 31st.
  Associate and Allied — $15.00 if paid prior to January 31st; $20.00 if paid after January 31st.
  Junior — $10.00 per year.
- The CDHA is offering to host the 1979 International Symposium on Dental Hygiene. The date and place will be decided at a later date.
- A handbook, "Operating Procedures and Policies for Officers and Committees" was approved as submitted by the Long Range Planning Committee.
- The Nominations Slate for 1975-1976 was approved as follows:

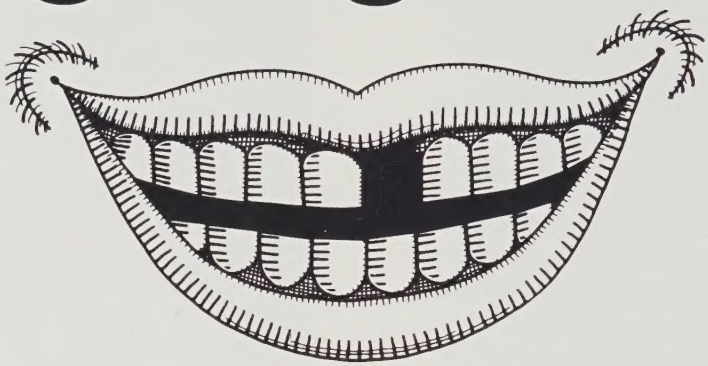
  Executive Council
  President — Iris Gold
  President-elect — Jane Costigane
  First Vice-President — Carol Worobey
  Treasurer — Sandra Till
  Immediate Past President — Sherita Clark

  Appointive Officers
  Editor — Marjorie Dimitri
  Executive Secretary — Anne Brownrigg

  Committee Chairmen
  Convention 1976 — Linda Risdon, Marilyn Maybey
  Community Dental Health — Sharon French
  Editorial — Fran Jeffs
  Education — Joan Voris
  Long Range Planning — Marjorie Dimitri
  Manpower and Utilization — Carol Kline
  Membership — Jo Gardner
  Nominations — Jane Costigane

The complete agenda book and the minutes of the Annual Meeting are on file with members of the Board of Directors, Provincial Delegates, CDHA Committee Chairmen, and Presidents and Secretaries of Constituent Associations.

Gaps are no laughing matter.



You know as well as anybody that gaps are no laughing matter. It's your business to know. At least about the consequences of gaps between teeth and gaps in a person's programme of oral hygiene 'at home' and regular professional care.

There are lots of other gaps that aren't funny either. Like communication gaps and credibility gaps and the generation gap. . .and a gap that you may not be aware is as important to you as it is: *the income protection gap.*

Your Association recognizes the value of an integrated income replacement plan, and how an income protection gap can effect you. They know that when you are sick or injured and away from your job, you have enough on your mind without having to worry about money.

That's why they got together with Canadian Dental Service Plans Inc. and CNA Assurance Company to design the *Dental Auxiliaries Group Income Replacement Plan.* This Group Plan fills the gaps left by disability benefits payable under the Unemployment Insurance Commission (U.I.C.) and the Canadian or Quebec Pension Plans (C.P.P. or Q.P.P.).

Here's an example of how the Dental Auxiliaries Group Income Replacement Plan works:

Assume that your monthly taxable income is $600, and you have $400 worth of monthly, *tax free* income protection through the Group Plan. . .

After 14 days of disability, the U.I.C. will pay you about $430 a month over the next 105 days of inability to work.

For the next two years of disability, the Group Plan will pay you $400 a month *tax free* income.

Thereafter, the Group Plan will pay you, *to age 65 if necessary,* $200 a month, *tax free,* to supplement the C.P.P. or Q.P.P. disability benefit of $110 that should then be available to you.

If you enroll in the Group Plan when you are 34, for example, the $400 monthly income protection would cost only $10.17 a month. . .a pretty reasonable price for the financial security provided.

Also, you may choose monthly income protection up to $600, and a second plan which pays a supplementary benefit during the initial days of disability for which U.I.C. benefits are available.

Fill me in.

I would like complete information about how the Dental Auxiliaries Group Income Replacement Plan can fill in my own income protection gap.

Name _____ Age _____

Address _____

City _____ Province _____ Postal Code _____

Professional Designation _____

Mail to: Canadian Dental Service Plans Inc., 230 St. George Street, Toronto, Ontario M5R 2P1

The Dental Auxiliaries Group Income Replacement Plan is jointly sponsored by the Dental Hygienists Association and the Dental Nurses and Assistants Association.

Your Group Plan is Administered by: Canadian DSPI and Underwritten by: CNA/assurance

CNA ASSURANCE COMPANY•HEAD OFFICE, 160 BLOOR STREET EAST • TORONTO • M4W 1C1 • AFFILIATED WITH CANADIAN PREMIER LIFE INSURANCE COMPANY

CONDITIONS OF EMPLOYMENT IN CANADA

WILLA JO GARDNER, R.D.H.
CAROL KLINE, R.D.H., B.S., M.A.

Mrs. Gardner is a full time instructor for the Program of Dental Hygiene at UBC and is Chairman of the CDHA Membership Committee. Mrs. Kline is a sessional lecturer for the Program of Dental Hygiene at UBC and is Chairman of the CDHA Manpower and Utilization Committee.

Some of the dilemmas facing the work force in the profession of dental hygiene are directly related to conditions of employment. Far too often, large grey areas of vagueness in the initial employment agreement between the dental hygienist and the dentist employer later cause misunderstanding and conflict. It is the purpose of this article to relate the conditions of employment affecting the dental hygienist in Canada. Clarification of these conditions prior to acceptance of a position will probably result in a more suitable employment selection and will also encourage a long-term commitment to the position.

Labour Legislation

In Canada, labour legislation is a provincial responsibility and hence, differs from area to area (Figure 1). Because of the complexity of the specific labour standards acts, it is recommended that when a question arises, the individual seek further clarification from the appropriate authority. It is interesting to note that many of the benefits thought to be voluntary job incentives are actually legislated labour standards provisions.(1,2,3,4,5,6,7,8,9,10) In British Columbia, while labour standards provisions do exist, dental hygienists who are registered and licensed under the provincial dentistry act are currently exempted from such coverage. Workers' compensation legislation is also a provincial responsibility and interested dental hygienists should investigate coverage as it applies to their particular working situations.

Employer/Employee Contracts

When seeking employment it is recommended that consideration be given to more than one employer and/or employment situation if the job market so permits. All employment policies including fringe benefits and office philosophies should be fully discussed during the interview and sufficient time should be taken to completely evaluate each opportunity with respect to the individual's needs and expectations.(11,12,13,14,15) Important factors to be considered prior to accepting a position are outlined in Figure 2 and further developed in the following discussion.

Work Period. Today many dental offices are offering flexible work periods including the "traditional" day (eight hours per day, five days per week), the "extended" day (ten hours per day, four days per week) or the "shortened" day (seven hours per day with little or no time off for lunch, five days per week). Which schedule is most satisfying for your life style? Is your time available for work influenced by someone other than yourself such as a spouse or children?

The manner of travel and travel time to and from work also influence the suitability of a position. What is the travelling time by bus? By car? What is the frequency of bus services? If driving, is the parking close at hand? Are the parking rates reasonable?

Another consideration is the inclusion of staff meetings. If they are held, are they scheduled during normal office hours, lunch hours, before work or after work? At what frequency are they scheduled? Does the scheduling constantly infringe on leisure time?

Does your employer expect you to work when he is absent from the office, either for a short or a long time period? What are the legal implications in your province of working without direct supervision.

Probation Period. A conditional period of employment should be established when you are starting a new position or a radically new employment situation within your usual office setting. This probation period will give both the employer and the employee an opportunity to evaluate the work situation. Are the philosophies of the dentist and/or office similar to yours? Are suitable instruments provided in sufficient quantities? Are you meeting your employer's expectations? Is the operation of the office within your expectations? One month is considered an adequate probation period if employed on a full time basis, and ten to fifteen days if employed on a part time basis. At the termination of the probation period, the employment agreement should be reviewed by both parties and by mutual consent, either continued or terminated.

Methods of Compensation (Salary). Business and industry have developed definite programs of salaries, benefits and periodic wage increases so that both employers and employees know where they stand. Dentistry as a profession does not have this formal structure but a pay plan should be devised by individual offices no matter what the method of compensation. Do you receive an increase after the probation period? Do you receive raises on a regular basis? Is merit or length of employment the prime factor for pay increases?

FIGURE 1 **LABOUR LEGISLATION APPLICABLE TO DENTAL HYGIENISTS**

PROVINCE	LABOUR LEGISLATION COVERAGE	MINIMUM WAGES	UNIFORMS	MAXIMUM HOURS OF WORK	VACATION PAY	HOLIDAY PAY	REQUIRED NOTICE OF TERMINATION	SICK LEAVE	REST PERIODS/ LUNCH PERIOD	EQUALITY
British Columbia	Hygienists not covered	$2.50/hr.	Employer provides & maintains at no cost.	44 hr./wk.	2 wk./yr. or 4%	9/yr., for full-time employees	—	—	½ hr. after 5 consecutive hours	No discrimination as to sex
Alberta	YES	$2.50/hr. (July 1/75)	Employer cannot deduct cost or maintenance	44 hr./wk.	2 wk./yr. or 4%	8/yr. for full-time employees	—	—	—	No discrimination as to sex
Saskatchewan	YES	$2.50/hr. (July 1/75)	—	40 hr./wk.	3 wk./yr. or 6%	9/yr. for full-time employees	1 wk. written notice after 3 months employment	—	—	No discrimination as to sex
Manitoba	YES	$2.60/hr. (Oct. 1/75)	Employer cannot deduct cost or maintenance	40 hr./wk.	1st 4 years = 2 wk./yr. as of 5th yr. = 3 wk./yr.	7 per yr.	Written notice equal length as regular pay period	—	1 hr. lunch	No discrimination as to sex
Ontario	YES	$2.40/hr. (July 1/75)	Employer cannot deduct cost or maintenance	48 hr./wk.	2 wk./yr.	9/yr. for full-time employees	1 wk. written notice up to 2 yr. 2 wk. after 5 yr. 2 mo. after 10 yr	—	—	No discrimination as to sex
Quebec	YES	$2.60/hr. (July 1/75)	Employer cannot deduct cost or maintenance	40 hr./wk.	—	8/yr. for full-time employees	2 wk. written after 1 yr.	—	—	No discrimination as to sex
Prince Edward Island	YES	$2.05/hr. (July 1/75)	—	48 hr. on minimum rate only	2 wk./yr. or 4%	—	1 week	—	—	—
New Brunswick	YES	$2.30/hr. (July 1/75)	—	44 hr./wk.	2 wk./yr. or 4%	6/yr. for those who meet qualifications	—	—	Suitable periods for food & rest	No discrimination as to sex
Nova Scotia	YES	$2.25/hr. (July 1/75)	Employer cannot deduct cost or maintenance	Hours not mentioned as to specific number	2 wk./yr. or 4%	6 per yr.	1 wk. up to 2 yr. 2 wk. after 5 yr. 2 mo. after 10 years	—	—	No discrimination as to sex
Newfoundland	YES	$2.20/hr. (July 1/75)	—	48 hr./wk. on min. wage — overtime	2 wk./yr. or 4%	—	Written notice equal to length of regular pay period	—	—	—

Fringe benefits can provide indirect increased financial gains and should be included when weighing the features of the different methods of compensation (Figure 3). Are uniforms provided? Are statutory holidays included? Is there some provision for continuing education? Are extended vacation periods included?

Vacations. Do you have the opportunity to select your vacation time or is it determined by your employer? Does your employer make provisions for you such as another employment arrangement when he closes the office for a extended period of time?

Sick Leave. Do your fringe benefits include sick leave? Is there a certain period of sick leave permitted each month without loss of salary? Can sick leave be accumulated? Is a financial bonus included as an incentive not to be ill in lieu of sick leave?

Uniforms. Will your employer provided uniforms? If so, how many and how often? Is the total cost or part of the cost paid? Are you reimbursed at the time of purchase or at another point during your period of employment such as at the end of your first year? Are the style and color of either uniforms or shoes specified? In some provinces where workers' compensation applies to the dental hygienist, requirements for footwear should be verified with the local authorrities.

Dental Services. Will your employer provide dental services for you and/or your family? If so, to what extent? Will the work be done during regular appointment time, during lunch time or after hours? Will your employer permit your absence from the office for necessary dental work without loss of salary?

Continuing Education. Opportunities which provide for maintenance of competency and acquisition of new skills are available to the dental hygienist in the form of continuing education courses and conventions. Does your employer encourage participation in these activities? Does your employer encourage membership in your professional organizations? Is there a loss of salary when attending courses and conventions? Does the time absent from the office have to be made up? Is there a limit to the number of courses you attend? Who selects the courses which you attend?

Smoking. More and more dental offices are requesting no smoking by both the staff and patients on the premises. Do you smoke? Can you work in a non-smoking environment? Conversely, if you do not smoke, can you work in a smoking environment?

Termination of Employment. Termination of an employment agreement may be necessitated by either external or internal factors and either way, the dental hygienist is professionally obligated to give formal notice. A minimum length of time for such notice should be equal to the normal pay period, for example monthly or semi-monthly. Are you giving your employer a fair chance to find a replacement? Are you providing adequately for your patients? Have you ethically met the requirements for termination of employment?

FIGURE 2 EMPLOYER/EMPLOYEE CONTRACTS

CONDITIONS	CONSIDERATIONS
Work Period	Working days? Starting time? Finishing time? Lunch break? Coffee break?
Probation Period	How long?
Salary	Method of compensation? Starting salary? Provisions for increases?
Vacations	Paid? Unpaid? How long? When? Cumulative?
Sick Leave	How much? Cumulative? Bonus?
Uniforms	How many? How often? Whose expense? Style? Color? Laundry?
Dental Services	For employee? For employee's family? How much? What rate? Scheduling?
Continuing Education	How much? How often? How many? Tuition fees? Loss of salary?
Smoking	Permitted? Where? When?

FIGURE 3 METHODS OF COMPENSATION

METHOD	ADVANTAGES	DISADVANTAGES
Daily Salary	Flexibility of schedule and vacation periods	No stability of income Loss of financial gain when office closes Fringe benefits usually not included
Monthly Salary	Includes fringe benefits, e.g. statutory holidays and sick leave Opportunities to increase proficiency and adapt new skills without affecting income Incentive to participate in other office duties invites a "feeling of belonging"	Low incentives to fill broken appointments and maintain tight appointment control
Salary Plus Commission	Guaranteed income with financial incentive	Needs stable practice Resentment to non-lucrative procedures Minimal fringe benefits Tendency towards quantity, not quality
Straight Commission	Financial reward according to efficiency, ability and efforts Freedom regarding work period, vacation time and continuing education	Needs stable practice Resentment to non-lucrative procedures Minimal fringe benefits Tendency towards quantity, not quality

Payroll Deductions

Payroll deductions, that is Income Tax, Unemployment Insurance and Canada Pension Plan, are another aspect of conditions of employment. In Canada, these deductions must be made by the employer since the practice of dental hygiene is considered to be an insurable employment which is employment under an express or implied contract of service. This contract generally exists when the person for whom the services are performed has the right to control and direct the individual who performs the services, not only as to the result to be accomplished by the work but also as to the details and means by which the result is accomplished. It is not necessary that the employer actually directs or controls the manner in which the services are performed; it is sufficient if he has the right to do so.(16) The dentistry acts in most provinces clearly state that the dentist has the right to direct the services a dental hygienist may perform and this meets the broad definition by the Department of National Revenue, Taxation.

Income Tax. The fact that dental hygienists are classified as employees and not independent contractors, whether employed by one dentist on a full time basis or employed by several dental offices, is important to the hygienist because employee tax deductions are clearly defined in the Income Tax Guide which accompanies the forms for filing income tax returns each year.(17) In addition to the set personal exemption, dental hygienists can claim the following deductions which are basically the standard employee deductions applicable in Canada:

- Professional dues
- Continuing education course fees paid by the individual if the total of such fees exceeds $25.00
- Annual professional license fees
- Employee's deduction up to $150.00 meant to cover cost of uniforms, shoes, etc.
- Charitable donations
- Medical expenses including contributions to a public or private health plan paid by yourself
- Registered retirement savings plan payments
- Other registered pension plan payments
- Registered home ownership savings plan payments
- Child care expenses

Income tax payroll deductions are computed according to pay periods of the employee(18) and are based upon earnings from salary, wages, bonuses, and vacation pay plus any taxable allowances or benefits paid by the employer on behalf of the employee such as:

- Public or private medical plan payments
- Disability insurance plan payments
- Convention registration fees
- Tuition fees for continuing education courses
- Gifts or bonuses(17)

The implication of the above as to what have been determined to be taxable benefits should be considered when discussing fringe benefits.

Unemployment Insurance. The combined premiums paid by the employee and the employer for those persons working in insurable employment enables the Unemployment Insurance Commission to compensate the employee for the loss of income when there is an interruption of earnings, thus giving the employee some measure of financial security in what could be a difficult period. The only ways dental hygienists may be exempted from paying unemployment insurance premiums are if they earn less than $37.00 per week in any province except Prince Edward Island where it is less than $35.00 per week, or if they are employed by a spouse.(16) Currently, the employee's premiums are calculated on the basis of $1.40 on every $100.00 of insurable earnings and the employer's premium is calculated at 1.4 times the employee's premium, that is $1.96 on every $100.00 of insurable earnings. The minimum and maximum insurable earnings for various pay periods by provinces and territories are shown in the booklet "Canada Pension Plan and Unemployment Insurance Premium Tables". The premiums are computed by the method of compensation, that is hourly, daily, weekly, semi-monthly or monthly, and must be made whether working for one dentist full time or for several dentists. Each dentist employer is required to deduct the employee's premium. If this results in an overpayment of premiums, application for a refund may be made when filing your income tax return.

Benefits are based upon two-thirds of the average weekly insurable earnings over the most recent twenty weeks or less. There is an initial waiting period of two weeks. This is comparable to the $100.00 deductible clause in car insurance policies. The Unemployment Insurance Commission has several excellent books available outlining eligibility for benefits as well as procedures for making application. Further information or assistance is available from your local Unemployment Comission office.

Canada Pension Plan. This plan was developed to give coverage to practically everyone who is working, whatever his or her occupation. It gives retirement or disability benefits to the employee in his lifetime and benefits to dependents in the event of his death. Every employee who is over eighteen and under seventy years of age must make a contribution of the required amount to either the Canada or the Quebec Pension Plan.(17) This contribution is deducted by the employer and is computed on the salary, wages, commissions, vacation or holiday pay, bonuses and other taxable benefits received from employment as defined by the Income Tax Act. Every employer is required to make equal contribution for each employee. The employer/employee contributions are

found in the tables in a booklet "Canada Pension Plan and Unemployment Insurance Premium Tables" which is printed and distributed to all offices by January 1st of each year. The deductions are computed according to the method of compensation, that is hourly, daily, weekly, semi-monthly or monthly. As with unemployment insurance premiums, CPP deductions must be paid by each employer for whom you work. While this may also result in an overpayment, a refund may be claimed when filing your income tax return. In addition, the dentist may claim any payments on your behalf as a business cost deduction when filing his return.

Insurance

There are basically two types of insurance that dental hygienists may wish to consider. These should be evaluated as to their suitability and applicability to both life style and needs.

Sickness and Accident (Income Protection Disability) Plans. Is it necessary? This could be determined by answering these additional questions. Are you responsible for yourself? Do you work full time? Is this your only source of income? Can you afford to be without an income for an extended period of time? Sickness and accident policies insure a minimum income in the event of an extended period of illness or accidental injury. These plans may provide either supplementary benefits while receiving unemployment insurance or may commence after unemployment insurance benefits have expired. Which option is best for you?

Liability (Malpractice) Plans. This type of a plan offers protectiion in the event of patient injury while in your treatment area and coverage includes medical costs such as surgical fees, ambulance, hospital costs, professional nursing, and/or funeral expenses which may result from such an accident. In addition, it would cover any defence and legal costs of a malpractice suit. It is imperative that you ratify with your new employer whether or not you are covered by a suitable policy. If there is any question as to coverage, you should assume the responsibility for your own liability insurance.

Conclusion

In conclusion, the various aspects of conditions of employment affecting the practising dental hygienist in Canada have been summarized and questions have been posed in an attempt to provide assistance when seeking employment. Consideration of these factors will hopefully contribute to increased job satisfaction and long-term commitment to the profession of dental hygiene.

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DENTAL HYGIENISTS ARE PEOPLE TOO

JUDITH PUHL, R.D.H., B.Sc.

Miss Puhl was a full time lecturer at the University of Manitoba School of Dental Hygiene and is currently pursuing a Masters Degree in Higher Education at the University of Minnesota.

Somewhere along the line we all made the career choice of being dental hygienists. I think that many of us made this career decision with a deficit of information. Often these decisions were based on objective and logical thinking rather than looking at the career from a "psycho-social" point of view, that is taking into consideration the life style a career affords and the psychological meaning it will have in our own lives. The career we are in is a definite identification badge for all of us. Too often, or maybe one should say most of the time, those who choose dental hygiene as a career are not looking beyond the next couple of years in their lives.

The problems of lack of planning, lack of worth or orientation, and lack of identity, have been especially complicated for many women whose planning typically is a stop-gap until marriage; whose main identity has been through a husband's occupation; and whose roles have been prescribed by society as those of wife and mother. Dental Hygiene is a stereotyped female occupation and for this reason, because of what it has to offer, has been a career choice for many women.

For example, it is a two year program and prepares one to earn quite a good salary after this period of time. It is an occupation that can easily be gone into on a part-time basis, therefore fitting in well with the family responsibilities many women have. The hours are good. It doesn't require any commitment other than the scheduled office hours. The dental hygienist doesn't have to take on a great deal of responsibility — at least compared to many other professions. This is stressed by the fact that a hygienist must work under the direct supervision of a dentist. There is a demand for hygienists, so job security is there. It does not require any financial imput, like say dentistry or law, to get started in the profession.

But what happens if these values that one holds upon entering dental hygiene happen to change? What if after working for a couple of years, one does want to get more involved, accept more responsibility, or feel there is more of a career growth within the profession or at least have one's experience recognized. This does happen constantly to hygienists, and rather than just shrugging our shoulders and saying, "that's the way it is," and being dissatisfied or unhappy with our careers, we have to start dealing with this problem in a more positive manner for our profession, and more important, for ourselves as individual people.

We had a couple of interesting sessions with our students this year along the line of career development. First, the fact was stressed that by "career", it wasn't only dental hygiene we were concerned with. What people do with their personal life is just as significant a part of their career. We talked in small groups about many different values and which were most important for each of us. It was quite interesting that in a group that is usually considered quite homogeneous, there were such different priorities in values.

We discussed these values and found that dental hygiene as a career did have the potential of meeting these various needs. It's just that the attitudes and approaches hygienists would take towards their profession would differ because of these feelings.

Some values are not more right than others and everyone should be accepted for what they believe and for where they place their priorities. However, some of the reasons many women choose dental hygiene as an occupation are not valid or realistic enough to make it a long term career.

The first fault is the orientation most students have to the field before they even start the course. We have to be realistic and point out all the facts, both good and bad. Dental hygiene should not be stressed as a technical profession, but as a people profession. This, perhaps, is the most important phase of the field. The second point, and, as an educator, the one I feel most strongly about, is that our curriculum must put more emphasis on the self-development of each student.

Not just dental hygiene but all professional schools seem to have put all their eggs in one basket. They insist that the students must be completely competent in the skills they perform. Most of the people who teach in professional courses are very well skilled themselves, and seem to think that all they have to do is pass these techniques on to the students.

Recently, however, educators have come to realize that these students are dealing with people, and perhaps some inter-personal skills should be stressed. This is great. It's made teaching and learning more realistic and fun for all concerned. But there is someone we are still forgetting about, and that's the students themselves. This is the time that those frustrations and problems that we all know exist within a

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profession must be brought to the surface and dealt with.

In most schools of dental hygiene, the faculty has a structured idea of what a "good" hygienist should be, and the students are more or less molded and expected to fit within this quite narrow spectrum. Unfortunately, many of these ideas are based on very traditional standards and are really quite old-fashioned and not up with today's changing society.

I am not suggesting that we forget about the ideals. In any health profession these are imperative. The standards of the schools are the only protection society has. Our main responsibility is to train students to be excellent hygienists. What I am saying is that I don't feel these ideals must suffer, and will probably be much more readily accepted by the students, if we take more of a human approach. It has been shown many times that if one makes students feel better about themselves, they will do better academically. But in order to do this it is important that we put more emphasis on how dental hygiene fits into the student's life, and how it relates to other aspects of her life. We must accept the fact that each of us is a unique and beautiful person deep down. Yet what we in education so often do is refuse to let this uniqueness come out.

We can't say that dental hygiene is a dead-end profession. We need to do something positive about that and the biggest thing is to work on ourselves — in a positive and growing way.

First of all, we should really try to analyse and face up to the reasons we chose dental hygiene as a career in the first place. Have our values changed since we entered the course? Are our present needs being fulfilled and if not, what can we do about changing ourselves or our present situation so that they are?

I recently read the book *I Ain't Much Baby, But I'm All I Got* by Jess Lair. In it he makes a statement that I so strongly agree with. He says, "If we're not comfortable in a situation, if it's not tolerable for us, and if it does not bring out the best in us, we should get out of that situation."

Professor Ursula Schwerin had an article published in the A.D.H.A. Journal last year titled "The Maturation Crisis of a Profession." In it she says that dental hygiene, as it stands, has no hope of being a completely mature profession because of its relationship with the dental profession. She said because dentistry is a stereotyped male occupation, and dental hygiene stereotyped female, a father-daughter type relationship exists. This does not allow for full growth of the profession as it wouldn't in an individual. Many hygienists want this and feel comfortable and secure with things that way. But it should not have to be that way for those of us in the profession who want to be held more responsible and are willing to demonstrate this ability.

She says that "it is the obligation of both groups to address themselves to the existing problems of interaction in order to break down the barriers which have so far prevented dental hygienists from utilizing their full professional potential. The needs of the public, rather than a power struggle between dentists and hygienists, should constitute the determining factors for future growth patterns of the dental hygiene profession."

Some of the things she suggested in her article that we as individuals must do to show our willingness to carry responsibility are to practice only those functions we are licenced to perform, to be an active member of our professional organization, to carry our own malpractice insurance, to feel responsible for any unprofessional conduct within the office of which we work, to participate in post-graduate education, and to stand up for what we believe. This is the only way our profession will have full growth potential.

The second point is that we've got to stop thinking of ourselves in such a technical sense, in order to be more acceptable to ourselves. We are not "prophy machines." This is a people profession. If we change this attitude about ourselves, we can only come on in a more positive manner to those we are exposed to and bring out the best in them. Granted, this takes lots of change and self-control, but the benefits are so great we should all be willing to at least give it a try.

We've all proven ourselves technically or we would never have made it through our dental hygiene courses. This aspect of education is easily evaluated. It's the other aspect-attitude, or the effective domain as its called, that's the frustrating part for us in education and for ourselves as hygienists. We must take complete responsibility for this ourselves. There isn't a clear cut answer, and we must all approach this on a personal level. But, having a positive attitude along with *respect* for dental hygiene is the only thing that's going to make this work we do for pay, any fun.

How many times have you been asked by a patient, "How can you stand working in mouths all the time?" This used to really bug me and I'd shrug my shoulders and say, "Oh it's not so bad," but I knew that patient still wondered, how can she stand it. But you know why they even asked that in the first place? It was because they knew all I saw of them was their mouth and there was no real human interest involved. We have to be convinced, *ourselves*, of how valuable we are to people before we can expect them to believe it.

We all know that the public has a general lack of trust in dentistry. The only way we can convince them otherwise is to tell it like it is. Oral health is really so important to the basic psychological and physical health to everyone. Yet dentistry, itself, has such a negative connotation to so many people. We

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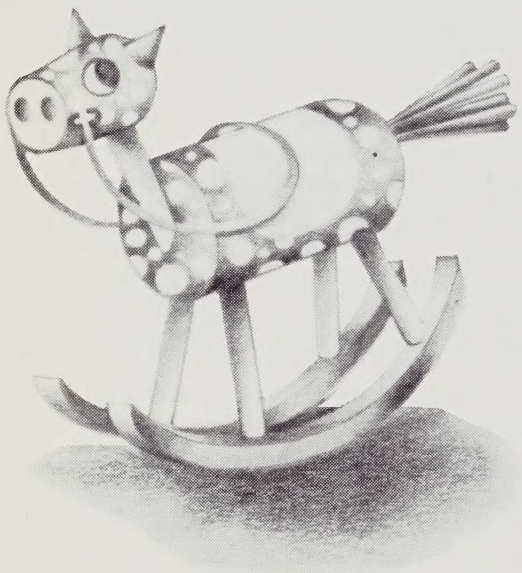

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must admit that this profession of ours presents a real challenge to us.

I really don't care what the actual skills are that we can do — that's what gives us the permission to call ourselves hygienists. It's up to us to perform to the level of standards we were trained to do. There's no way we can take pride in our profession if we don't do all that we can for every patient. If we decide to take the easy way out of a situation, the person we are hurting most is ourselves.

To me, however, the real challenge and fun is getting to the people. We have an obligation to everyone of these people to be concerned about them as individuals, not just their teeth. We also have an obligation to these people and to ourselves to keep upgrading ourselves. Recent developments in Provincial Dental Health Plans may leave us without a choice. This, however, is not a negative point of view. It simply gives us room for growth.

Dental hygiene of the future will not be as it is known today and we can't depend on the training we had in our diploma courses to get us through years in the profession. This may involve some sacrifices on our part — like going without or at least a cut in income for a period of time to further educate ourselves. It may involve a physical move, or breaking up a family for a period of time. But if we want to get more out of our career, if we want to grow, we must be willing to put this extra effort into it. We all must go out there and look at ourselves and expect the best out of ourselves. To do this we have to first accept ourselves as halfway decent people.

So many changes have to be made if dental hygiene is to be a career, rather than merely a job for pay, for all of us involved. We can't count on expansion of duties alone to alleviate all the discontent and lack of worth that exists in the profession. We can be optimistic. We're strong people, but it all depends on the approach we take.

(Presented at the CDHA Annual Convention, August, 1975.)

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COPSYSTEM: AN EDUCATIONAL PROPOSAL

JOAN T. CONKLIN, R.D.H., B.S., M.S.

JOAN S. VORIS, R.D.H., B.S.

Miss Conklin is the Education Co-ordinator for the College of Dental Surgeons of British Columbia. Mrs. Voris is Assistant Professor and Supervisor, Program of Dental Hygiene, UBC and Chairman of the CDHA Education Committee.

Introduction

At present, dental auxiliaries spend approximately 5 years in the work force.(1) Lack of mobility, boredom, inability to proceed from one level of practice to another, inflexible educational systems and frequent duplication of learning experiences are some of of the reasons cited for leaving the dental work force. To this end, a Career Options System (COPSYSTEM) approach to the education of dental personnel in British Columbia has been proposed.(2)

The criteria used in the development of the COPSYSTEM included availability of educational programs according to individual interests and employment opportunities, granting of credit for related on-the-job experience and previous educational endeavors, and recognition of individual learning abilities. In addition, the design was influenced considerably by the compilation of all procedures performed in dentistry and the subsequent rating of these procedures according to the amount of skill and judgement required to perform them. The COPSYSTEM approach to the education of dental personnel could be of great assistance to educational institutions as well as being flexible enough to respond to the changing dental needs of this province. province.

The COPSYSTEM Design

In the COPSYSTEM approach four basic levels of education have been proposed and core curriculae and various optional modules have been identified. (Figure 1). Mechanisms for progressing either vertically and/or laterally have been incorporated within the framework of this model in order that the education of dental personnel could be patterned according to individual needs as well as the requirements of the delivery system. Multiple entrance opportunities would be available, based upon minimum admission requirements for each level and proficiency and challenge examinations would be developed to facilitate appropriate placement of individuals within the educational system. Specific functions have been suggested for assignment at each level and a modular approach to curriculum design has been selected for both the core levels and the specialty areas which would be offered as optional programs (Figure II).(2, 3, 4) All functions assigned at the Level I core would also be included at subsequent levels and advanced standing would be awarded according to previous educational experience. This approach would accommodate individual learning abilities and motivation, and would encourage students to progress at their own rate. Minimal requirements and guidelines including defined performance objectives and evaluation criteria are currently being identified and established for each level as well as for the modules.

Progression and Advancement Within Copsystem

Entrance into the COPSYSTEM could occur at any level as illustrated in Figure 1 and would be dependent upon either fulfillment of the minimum admission requirements or the awarding of advanced standing credit as determined by performance in placement or challenge examinations. Students entering the COPSYSTEM from the work force would receive credit for knowledge and skills gained while employed. In addition, opportunities would be made available at any level to gain work experience prior to progressing within the educational system.

The programs of study would be modular in design and would utilize self-instructional materials wherever possible. Participation and enrollment in the optional areas will be dependent upon completion of prerequisites which will be defined for each module. The laboratory and clinical aspects of the program would provide for the application of background information, the development of the necessary psychomotor skills and the achievement of clinical competency. In addition, students would be progressing according to individual interests and learning abilities.

FIGURE 1 **COPSYSTEM**

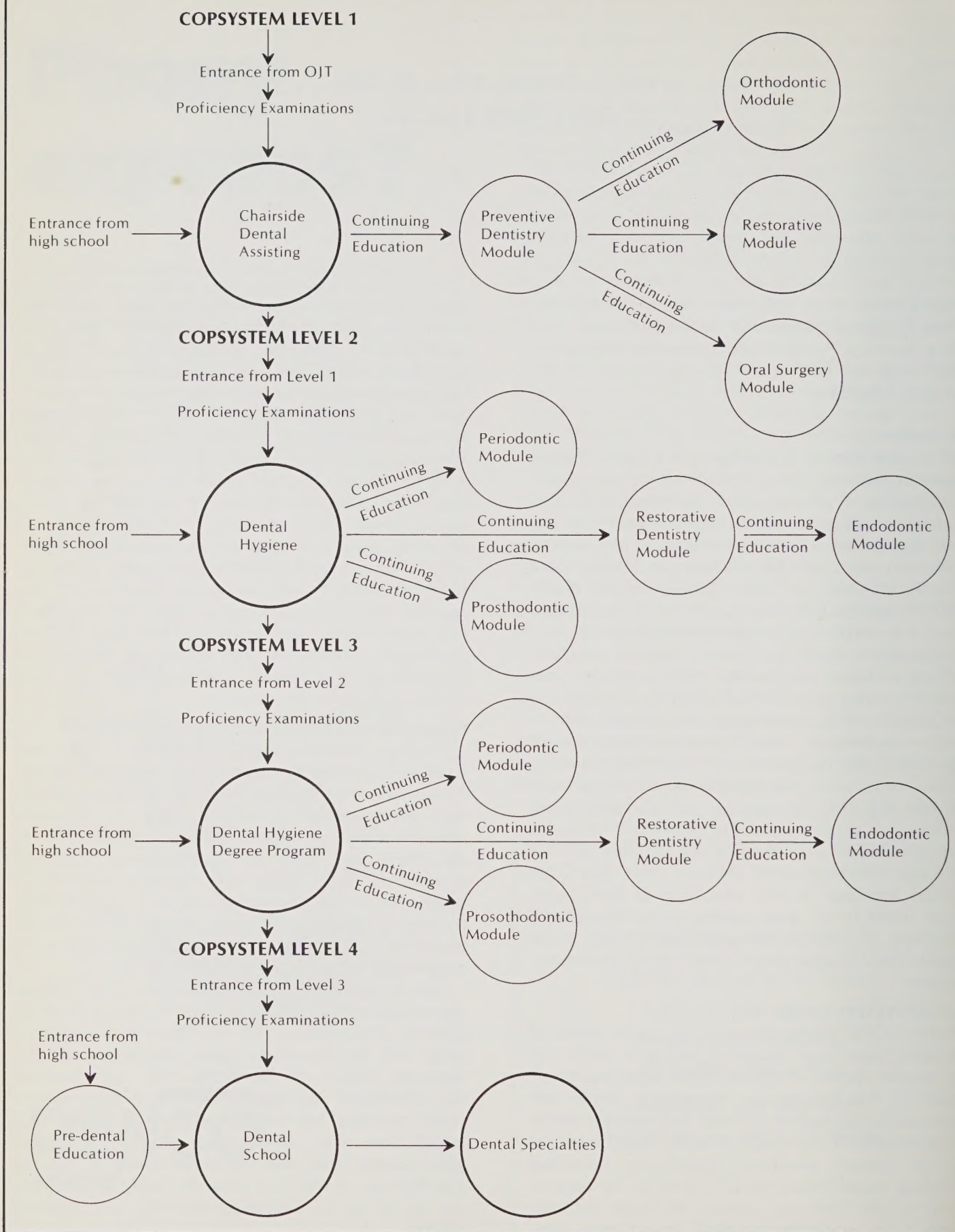

FIGURE II PROPOSED ASSIGNMENT OF CLINICAL FUNCTIONS

LEVEL I

CHAIRSIDE DENTAL ASSISTING CORE	PREVENTIVE MODULE	RESTORATIVE MODULE	ORTHODONTIC MODULE	ORAL SURGERY
— provide individualized home care instruction — perform first aid procedures — take temperatures — take blood pressure and pulse — take intra and extra oral photographs — expose periapical and bitewing radiographic films — process exposed radiographic films — pass dental instruments and materials — irrigate oral cavity — apply air — cleanse prepared cavity — insert and remove cotton rolls — place and remove rubber dam — remove retraction cord — pour, trim and articulate study casts — polish dentures	— take medical and dental history — provide simple screenings for diabetes and hypoglycemia — take and prepare oral cytologic smears — preserve and package biopsy specimens for shipment — take bacterial cultures — test for caries susceptibility — take initial study model impressions — provide instruction in use and maintenance of partial and complete dentures and obturators — polish clincial crowns — apply topical anticariogenic agent — prepare teeth and apply fissure sealants	— place cement bases and related medicaments — place and remove temporary restorations — place and remove matrices and wedges — place restorative materials — carve restorative materials — remove excess restorative materials — finish restorative materials — recontour existing restorations — place retraction cord — place retentive pins — cement temporary bridges, crowns and inlays	— provide instruction in placement and care of removable orthodontic appliances — tie-in prepared orthodontic arch wires — remove orthodontic arch wires — remove excess cement following cementation of orthodontic bands — remove orthodontic bands — fit orthodontic bands prior to cementation — cement orthodontic bands	— place and remove medicaments in a dry socket — remove sutures

LEVEL II

DENTAL HYGIENE CORE	PERIODONTAL MODULE	RESTORATIVE MODULE	ENDODONTIC MODULE	PROSTHODONTIC MODULE
— examine head and neck — examine intra-oral structures — examine occlusal relationships — identify habits affecting occlusion — identify deviant swallowing patterns — provide myofunctional therapy — make pulp vitality test — apply extra-oral and panoramic radiographic procedures — prescribe drugs from a defined formulary — evaluate dietary habits and provide diet counselling — administer local anesthetics — remove supra- and subgingival calculus — curette and root plane tooth surfaces — remove excess restorative material — desensitize hypersensitive teeth — place sutures — place and remove periodontal dressing	— curette soft tissue — cauterize perio-coronal gingiva — incise and drain simple abscesses — excise peri-coronal tissue — excise soft tissue walls of periodontal pocket (gingivectomy) — recontour gingival form (gingivoplasty) — manage acute periodontal abscess, pericoronitis, and necrotizing ulcerative gingivitis	— prepare tooth structure for restorative materials — remove restorative materials — fit stainless steel crowns — cement stainless steel crowns — remove coronal pulp (pulpotomy) from deciduous teeth — remove existing crowns — remove existing inlays — remove existing bridges — extract (simple) deciduous teeth	— extirpate pulp (after canal length established) — ream and file canal — medicate root canal — irrigate root canal — bleach tooth	— take final impressions for partial dentures — take bite registration — take shade and mold — try-in denture — insert denture — adjust denture — equilibrate occlusion relating to dentures — reline denture (direct method)

Summary

The COPSYSTEM proposed for educating dental personnel in British Columbia has been outlined and reviewed. Although many aspects are still undefined, there is general province-wide support towards its further development. This approach appears to be a positive and constructive step towards more effective delivery of dental services while maintaining high standards of education at all levels. It is believed that with the implementation of the COPSYSTEM many problems relating specifically to dental auxiliary education, licensure and practice would be resolved.

Acknowledgements

This systems approach was developed as part of a research project conducted under the auspices of the Province of British Columbia Division of Dental Health Services and the College of Dental Surgeons of British Columbia. Currently, it is being further developed by the Education Committee of the College of Dental Surgeons of British Columbia, the Curriculum Development Branch of the Department of Education for the Province of British Columbia, and the Program of Dental Hygiene at the University of British Columbia.

The authors acknowledge the contributions made by all members who were involved in this study and in particular the special efforts of Mrs. Shendra Collin as well as Dr. Donald Anderson, Mrs. Marjorie Dimitri, Mrs. Carol Kline, Dr. Don McFarlane, Dr. Ormand Murphy, Mr. Victoria Rickard and Dr. Douglas Yeo.

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All manuscripts submitted for publication should be typed double-spaced on standard (8½ x 11) paper with a margin allowance of at least one inch all around. The original and 2 copies must be submitted, and the manuscript must not be submitted elsewhere. A title page should be included with the full title of the paper, author's full name and degree, and author's official position.

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These must be clearly defined, and suitable for reproduction on a reduced scale. Each illustration should be provided with a type written legend and marked in numerical order. Graphs and drawings should be accurately drawn, in Indian ink on white paper. Photographs must be glossy prints, and also be marked in numerical order.

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The preferred maximum length is 8-10 typed written pages or 3000 words including references. Space taken up for illustrations should be considered in the length.

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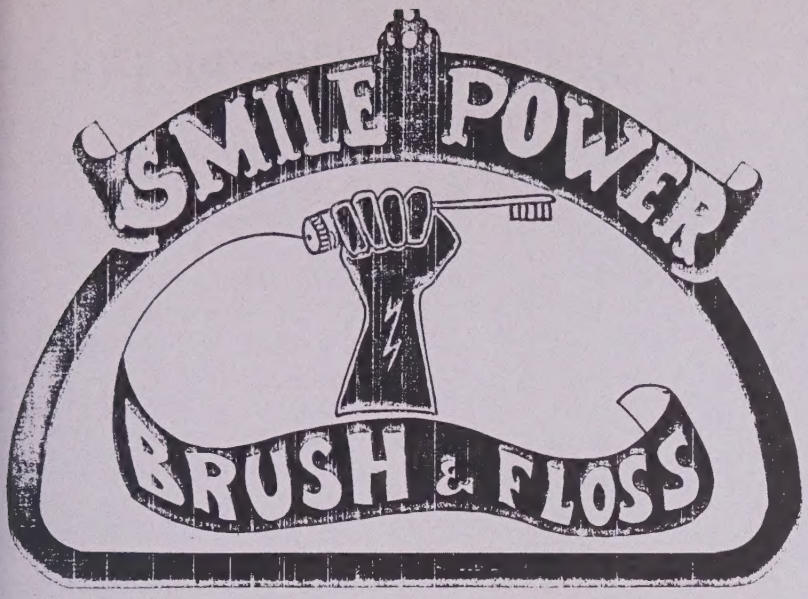

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FROM THE DESK OF THE EDITOR . . .

The members of the Editorial Staff were impressed with the enthusiastic response to the Editorial Questionnaire which was circulated with the summer issue of the Journal and would like to thank all those who took the time to reply. Your comments and suggestions were very much appreciated and every effort is being made to give consideration to as many of them as possible in the preparation of future publications.

In particular, there were many requests for original articles by Canadian dental hygienists. We all know that Canadian hygienists are not publishing enough, even though there are many who are excellent clinicians or leaders in the field of public health. Perhaps they do not realize their clinical work or community programs are of interest to others and that sharing their knowledge and experiences is important to the growth of our profession. Not all articles published must be scientific research reports. There are a variety of topics which are of interest and should be written up for publication including: new treatment techniques or a particular approach that has been beneficial to a patient; case histories of patients who present unusual diagnoses or numerous complications and whose treatment has been particularly successful; verification of an approach or theory applied with specific patients; new teaching methods being tried at the university or in the clinical setting; participation in a research project or special community program; new approaches to legislation and licensure; description of the dental hygienist's role in new settings; and psychology in the dental office.

Many dental hygienists feel that one needs an advanced degree before they can publish professionally relevant articles. This is not the case. At present, a very small number of Canadian dental hygienists have graduate level education and we should not rely on them alone to publish. We must all make a contribution to our journal. French-speaking dental hygienists are also encouraged to contribute their articles if our journal is to reflect the bilingualism of our country. In writing an article for a professional journal, there are several established rules to follow regarding content and style and these are outlined in "CDHA Guidelines for Submission of Manuscripts" which is included in this issue in both English and French.

If every Canadian dental hygienist would write one article every five years, and if we published only the best articles, our journal would be published more frequently and would be of a very high standard. We all have special knowledge to contribute and it is through the publication of our knowledge that dental hygiene can grow and develop new and more scientific methods for evaluation and treatment.

M.J.D.

MEMBERSHIP REMINDER

The 1976 CDHA membership fees are due and payable January 1st. The national membership dues (this does not include the provincial fees) are as follows:

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Granola (with Dates)	14.5%
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Life	14.5%
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Quisp	44.9%
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These percentages are the results of an investigation directed by Dr. Ira Shannon, Veterans' Administration Hospital, Houston, Texas. An article on the study was published in the *Journal of Dentistry for Children*, Sept./Oct. 1974.

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INFORMATION AVAILABLE

Additional copies of the information, "Dental Hygiene Education, Licensure and Practice in Canada" which was published in the Summer 1973 issue of the journal are available upon request from: Mrs. Anne Brownrigg, CDHA Secretariat, Box 8252, Ottawa, Ontario K1J 3H7.

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Dr. Neilson, Dean of the University of Manitoba Dental School, was appointed a Fund Trustee in 1971 and became Vice-Chairman of the Board in 1974. He previously served as Chairman of CFDE's Advisory Committee on Fellowship Selection for a three year period commencing in 1967.

In keeping with the Fund's policy of appointing three trustees each year, Dr. Henri Brouillet, Mr. Stanley O. Tebbutt and Mr. Alex S. Currie were all appointed for a three year term. Both Dr. Brouillet and Mr. Tebbutt were reappointed for additional terms of office and Mr. Currie, President of Denco, was appointed to fill the vacancy created by Mr. Bower's resignation.

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THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

SPRING 1976 PRINTEMPS **VOLUME 10, No. 1**

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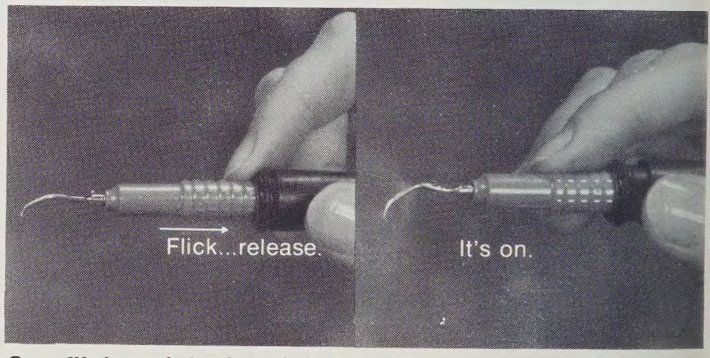

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HEPATITIS: A "NEW" OCCUPATIONAL HAZARD*

All of us who have practiced dentistry for any appreciable time are very much aware of the many occupational hazards hanging over the head of the practitioner. Besides the common illnesses and accidents that face the general public, the dentist lives in constant fear of being incapacitated by those injuries or infections to hands, eyes, skin, or back that are uniquely related to the practice of dentistry. Currently there is an old ailment with a "new" look that may be the biggest occupational hazard of all.

Viral B hepatitis is an ailment receiving considerable attention in medical (and dental) circles in the past year or so. Type B hepatitis is surely not a new disease, but its dentally related occurrence has recently increased, or its recognition has been increased, to such an extent that it merits the very careful attention of the dental profession. Dentists frequently have been cautioned against the possible transmission of hepatitis from one patient to another through inadequate sterilization of instruments and needles and dentists also know of the risk of contracting hepatitis themselves by way of accidental cuts and scratches on their hands while working in contact with blood of patients with hepatitis. In addition, there is now some indication that hepatitis may be contracted from saliva, not only through direct contact, but also by respiratory transmission of airborne droplets.

While the preceding factors are extremely important to both patient and dentist, a new angle has cropped up in the past year that could be even more important to the dentist from a career or financial point of view. That is, the possible role of the dentist as a carrier of hepatitis and the legal ramifications of such a circumstance. A dentist who has had hepatitis, perhaps without even knowing it, may be a chronic carrier of the disease for two years or so, and conceivably such a condition could last for as long as 25 years. It has been reported that some dentists have been restricted from direct contact with patients after being identified as chronic carriers of Type B hepatitis. There are also legal questions related to liability, and perhaps insurance coverage, in regard to auxiliary contraction of the disease. A report of the Council on Dental therapeutics on the subject of hepatitis will appear in a forthcoming issue of *The Journal of the American Dental Association.*† It should be read by all dentists.

The dental profession should be alerted to the possible impact hepatitis could have on individual carriers. It could be catastrophic.

Herbert C. Butts, D.D.S., M.S.
Editor, American Dental Association

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†Published in The Journal of the American Dental Association, Volume 92:1, January 1976.

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AN ASSOCIATION OF DENTAL AUXILIARIES?

Talk started last year among people at the national Board of Directors' meeting in Toronto. It increased in volume and continued in St. John's this past summer. Now I hear the same thing from many quarters — constituent dental hygienists' associations, dental assistants' associations, local societies, individuals.

Dental therapists are being graduated from the program in dental therapy in Fort Smith, N.W.T. These people have made commitments to use their skills in the north of our country. They are in numerous remote communities, delivering the services for which they were trained.

Dental nurses are being graduated from Wascana Institute in Regina. These Saskatchewan Dental Nurses are working in government-sponsored public health clinic settings throughout that province, delivering the services for which they were trained.

Dental assistants are being graduated from programs all across Canada and most courses of study offer at least options for expansion into intra-oral and/or preventive dental techniques. Dental assistants with expanded duties are working in private and public sectors throughout the nation, delivering the services for which they were trained.

Dental hygienists are being graduated from programs in all regions of Canada, some with expanded functions beyond the traditional duties. We, too, are working in many settings, delivering the services for which we were trained.

What do we have in common? Not too much . . . just concern for delivering the best service, regardless in which area of service each of us is trained; just concern for the people who are the consumers of our services; just a wish to assist the public to become more informed and to act in a responsible manner regarding dental and oral health; just a desire to do our parts to provide the best possible care for our patients. Not too much.

So why don't they do something? Why don't they? Dental nurses and therapists are not dental hygienists, but they receive somewhat similar training, so perhaps they would wish to join us. Dental assistants who have extended skills are still dental assistants even though they perform some of the same procedures we do, right? Expanded duty dental hygienists are still dental hygienists, so they should remain members of our association.

On the other hand, why don't WE do something?

What can we do? Blow the C.D.H.A. into oblivion? No! No, what we need to do is seriously start talking about how we can all get together, share common interests, knowledge, goals. We need to start thinking about how we can all participate; how we can all speak responsibly for the dental auxiliaries in Canada; how we can co-operatively develop something like a federation of operating dental auxiliaries. We would be able to share the common things, and study those which are peculiar to our individual groups.

That's what I think. What do you think? Let me hear from you — the postal system is working again.

Iris L. Gold
President 1975-1976

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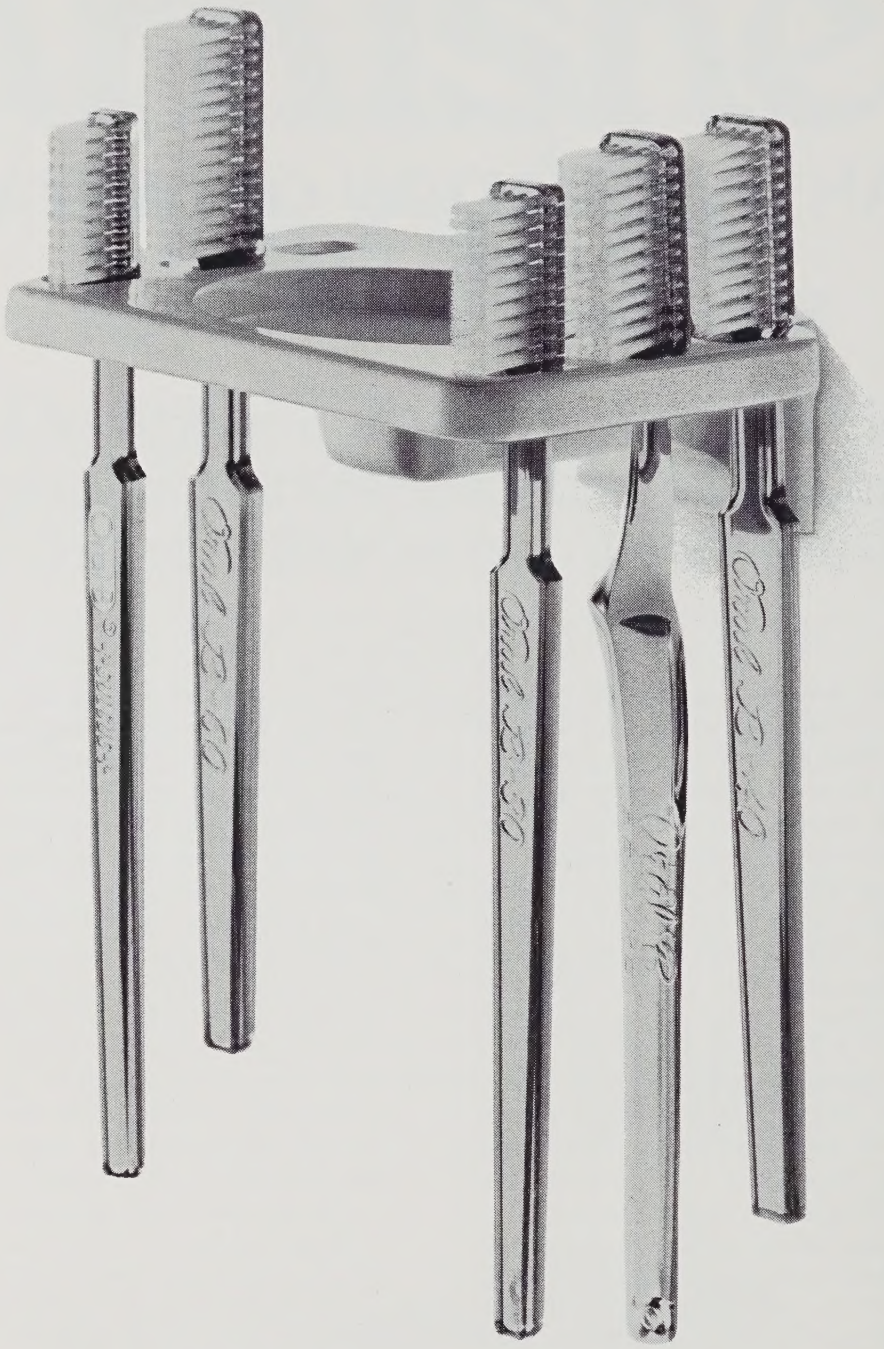

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HUNT FOR THE CARRIERS OF HEPATITIS LEADS TO DENTIST'S OFFICE

A headline on the cover of the Dec. 15 issue of *Medical World News*, a magazine for doctors, posed the question, "Must hepatitis carriers stop treating patients?"

Interest in this question goes far beyond the borders of organized medicine, because when disease carriers deal intimately with the public, the potential danger to all should be obvious.

Hepatitis is a common inflammatory disease of the liver that is usually quite unpleasant, often very serious and occasionally fatal even to otherwise healthy persons. It is particularly dangerous when it strikes those who are elderly or in frail health.

On rare occasions hepatitis appears in an individual without producing symptoms, such as jaundice, that would cause alarm or raise medical suspicions. These individuals, who are not sick themselves but who can pass the hepatitis virus on to others, are called carriers. Probably the best known carrier in history was Typhoid Mary, who infected hundreds with typhoid fever while remaining healthy herself.

By the nature of their work, physicians and dentists run a higher-than-average risk of hepatitis. Among physicians, general surgeons are the highest-risk group, and among dentists, oral surgeons.

What *Medical World News* was asking in its headline, in effect, was whether hepatitis carriers who happen to hold MD or DDS degrees should be barred from their lucrative practices. To a layman, the question almost answers itself; it seems to be like asking whether a $60,000-a-year jumbo jet pilot whose vision starts going or who contracts heart disease should be excluded from commercial passenger service.

The magazine article that evoked the headline grew out of recent cases in California, Pennsylvania and Maryland involving two dentists, an oral surgeon and a general surgeon. All had been implicated, in one way or another, in the infection of patients with hepatitis.

The leading case involved a dentist in Los Angeles whose unwitting involvement was discovered only after clever medical-detective work by the county health department. Last May a number of hepatitis cases were reported by doctors, and the health authorities started looking for a possible common factor in the cases.

Their trail led to the dentist's office, where all the individuals had been treated before coming down with hepatitis. A blood sample was taken from the dentist and analysed for hepatitis-B antigen (the causative agent of the disease). When it was found that the dentist's blood carried the same rather rare strain of antigen as all the patients, that tied it.

In time, 14 cases were identified. The first step was to persuade the dentist to shape up sanitation — to wear rubber gloves and a mask while working, and to sterilize with extra care instruments and other equipment he used. But even after the new hygiene regimen began, another case of hepatitis was traced to him.

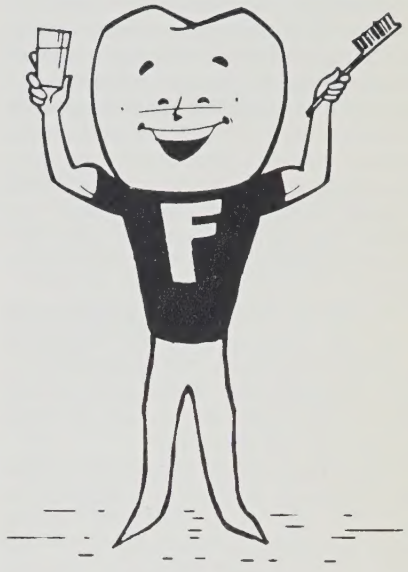
Then the authorities moved in and barred the dentist from further practice — at least until he can show he is no longer infectious to his patients. That may be months, years, or never. Dr. Shirley Fannin, Los Angeles' communicable disease control chief, expressed regret that she had to impose what amounted to an indeterminate sentence that denied the dentist his livelihood.

Some public health officials say it is not necessary to ban all medical personnel who are hepatitis carriers. What is necessary is to ensure that they observe hygienic measures such as "gloving, frequent washing, masking and sterilizing equipment" — in essence what the Los Angeles dentist was instructed to do.

The remarkable, even shocking, thing about this advice is that at this late date it needed to be given. It is not greatly different from proposals made more than a century ago by Semmelweis and Lister.

Ignaz Philipp Semmelweis, a Hungarian obstetrician, was ridiculed into oblivion, insanity and eventual death for suggesting in 1860 that childbed fever (then a leading killer of women) could be controlled if doctors would wash their hands between patients. Sir Joseph Lister, in England, five years later, bucked a similar tide of medical conservation, but, being of sterner stuff, rode it out and made his views on antiseptic surgery stick.

WILLIAM HINES
Chicago Daily News Service
for The Vancouver Sun



BRANTFORD CELEBRATES 30 YEARS OF FLUORIDATION

A recent proclamation from Frank S. Miller, the Minister of Health in Ontario, Canada, congratulated the residents of Brantford, Ontario, on "celebrating the 30th year of successful experience with fluoridation of their drinking water." Brantford was one of the first communities in the world to adjust the level of fluoride in their water supply in 1945.

Said Mr. Miller, "Fluoridation has grown in acceptance until it is now used by nearly eight million Canadians, some five million of whom are in Ontario. In accordance with the recommendation of the World Health Organization, I have no hesitation in stressing the importance of fluoridation for early prevention of tooth decay and in urging its adoption by municipalities, wherever feasible, as a well-proved public health measure."

CONVENTION '77 CHAIRMAN APPOINTED

Sherita Clark has been appointed chairman of the 1977 CDHA Convention which will be held in Toronto, Ontario, October 23 to 28, in conjunction with the World Dental Congress.

SURVEY OF INTEREST IN A DENTAL HYGIENE DEGREE PROGRAM

At present, there are no English language programs in Canada designed to prepare dental auxiliary educators. The one existing program of this nature is the French language program at the University of Montreal. There are no programs in Canada to prepare hygienists for more senior roles in public health. In the fall of 1975, the School of Dental Hygiene at the University of Manitoba circulated a questionnaire to Canadian dental hygienists and dental hygiene students to ascertain the level of interest in a degree program in dental hygiene designed to meet these two needs. The survey elicited a good response and indicates a high level of interest.

A total of 1590 questionnaires were sent out, 1120 to graduate hygienists and 470 to students. 747 questionnaires were returned, 687 from graduate hygienists (a 61.3% return) and 60 from students (a 12.7% return).

More than half (54.6%) of the graduate hygienists responding graduated in the past five years (1971-75). 39.6% graduated between 1963 and 1970, and 5.8% in the period 1927-1962. It should be noted that 1963 was the year of the first graduating classes at Alberta and Dalhousie, and the first large class at Toronto.

Of the 747 responsents, 64.1% expressed interest in enrolling in a degree program. Among student respondents, 90.9% were interested. Of graduates, 62.1% were interested. Not surprisingly, interest was related to year of graduation. Of those graduating from 1929-1962, 40.5% were interested. The corresponding figure for 1963-1970 graduates was 56.4% and for 1971-1975 graduates — 69.3%.

The majority expressing interest (54.3%) preferred part time study. 32.7% preferred full time study and 13% said either would be possible.

85% of graduate respondents are presently working in the field of dental hygiene, 66.7% on a full time basis and 18.3% on a part time basis. Those hygienists employed full time were somewhat more interested in a degree program than those working part time (67.5% vs 52.5%), but there was little difference between hygienists working in public health and private practice.

Of those not presently employed in dental hygiene, 77.4% said they intend to return to dental hygiene practice, and for this group the level of interest is comparable to graduates on the whole (64% vs 62.1%).

The high proportion of hygienists indicating they are presently working either full or part time, and the fact that more than three out of every four respondents not presently working in this field intend to return indicates a much higher retention rate than is frequently believed.

The University of Manitoba School of Dental Hygiene is very appreciative of the good response to the survey, and for the many comments expressing interest and encouragement. The many who requested that they be kept informed as to the progress of the proposal for a degree program will receive further communication at a later date.

School of Dental Hygiene
University of Manitoba

NOUVEAUX STANDARDS DE NUTRITION AU CANADA

Le ministre de la Santé nationale et du Bien-être social, M. Marc Lalonde, a rendu public les nouveaux standards de nutrition au Canada, qui remplacent ainsi ceux utilisés depuis 1964.

Les standards de nutrition au Canada sont l'expression numerique des quantités quotidiennes d'énergie et d'éléments nutritifs jugées suffisantes, d'après des données scientifiques, pour répondre aux besoins de presque tous les Canadiens bien portants. Les besoins nutritifs d'une telle population étant très diversifiés, les normes recommandées dépassent forcément celles requises par la majorité des individus.

La dernière révision complète des standards de nutrition pour le Canada remonte à 1964. Depuis, les experts en nutrition ont accumulé une somme considérable de nouvelle donnees sur les besoins nutritionnels. Vu un besoin pressant de mettre à jour ces standards, un comité d'experts à été créé en 1973 par la Direction générale de la protection de la santé du ministère de la Santé nationale et du Bien-être social.

Les standards révisés par le Comité comprennent des recommandations sur les rations quotidiennes d'énergie et de vingt-sept éléments nutritifs, dont douze n'étaient pas couverts par les standards de 1964. Cette addition de douze éléments nutritifs résulte d'une connaissance approfondie de leurs fonctions réelles dans l'organisme. Des modifications ont également été apportées aux groupes de personnes depuis qu'il a été reconnu que les besoins variaient selon les facteurs âge, poids, sexe et l'état psychologique.

Les nouveaux standards de nutrition serviront à de nombreux organismes et groupes s'occupant d'élaboration de régimes, d'établissement de normes, de ravitaillement, d'élaboration de directives relatives a l'enrichissement des aliments et de publicite en alimentation. Les nouveaux standards sont contenus dans une publication intitulée "Standards de nutrition au Canada", et est disponible à tous les comptoirs d'Information Canada pour la somme de $3.75.

ORAL MYOLOGY CONVENTION

The International Association of Oral Myology concerns itself with professional and scientific issues of interest to oral myologists, speech pathologists, dentists, dental hygienists and all individuals concerned professionally with the mouth and its physiology.

The FOURTH ANNUAL CONVENTION OF THE INTERNATIONAL ASSOCIATION OF ORAL MYOLOGY, will be held June 17, 18, 19, Thursday, Friday and Saturday, 1976 at the Skyline Hotel, 101 Lyon Street, in downtown, Ottawa, Canada.

For further information regarding the convention, please contact:

International Association of
Oral Myology
Annual Convention Information
Ms. Zoe Strock,
Corresponding Secretary
P.O. Box 2201
Denton, Texas 76201

DENTAL PATIENTS AWARDED $20,000 IN MALPRACTICE CASE

Four patients in California were recently awarded a total of $20,000 after their dentist failed to diagnose or treat periodontal disease. The plaintiffs, who had been patients of the doctor for about 18 years, contended that their doctor's neglect resulted in loss of teeth and the need for extensive therapy.

MAILING REGULATIONS

In order to facilitate the distribution of journals and other Association mailings, we would appreciate having the following information for all members:

- Full name including husband's initials where applicable: This is the only way the post office can trace your residence if it is registered in your spouse's name.
- Postal Code: Only mail which includes the postal code will be delivered in the near future.

PUBLICATION DEADLINES

Deadlines for submission of copy for publication in the journal are April 15, July 15 and October 15.

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— if Edmonton Swings

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INTERNATIONAL PREVENTIVE DENTISTRY AWARDS PROGRAM

The Federation Dentaire Internationale has launched an International Preventive Dentistry Awards program to encourage the development of new preventive approaches to dental health.

According to Dr. J.E. Ahlberg of London, FDI executive director, the International Preventive Dentistry Awards program will provide an opportunity for recognition of dental personnel who have researched, developed and implemented preventive dentistry projects. Deadline for submission of entries is April 30, 1976.

A top award of $2,000 will be given in each of three categories: community programs, professional education and research. The awards program will be conducted every three years and the first awards will be presented at the Opening Ceremony of the 65th annual World Dental Congress scheduled Oct. 23-28, 1977 in Toronto, Canada.

The new FDI awards program is made possible by a grant from the Johnson & Johnson Company which has been supporting a similar program conducted by the American Dental Association for the last four years. The American Student Dental Association has also presented preventive dentistry awards for the last three years under a grant from Johnson & Johnson.

Under the category of community programs, entries can be submitted for the following projects: preventive approaches used for community education or public information purposes such as primary and secondary school programs, teaching aids, manuals, publications, research, films, clinics; also programs for special population groups including the elderly, handicapped and retarded; also research, public media and private practitioner's activities in the community.

Entries under professional education projects can be based on educational curricula and equipment used by the profession to learn about prevention including continuing education programs, recognized dental society meetings, curriculum changes in dental schools, research and audio-visual methods for use in continuing education and dental schools.

Submission under the research category can be made for projects involving innovative techniques and new research findings that will help prevent oral disease.

All entries in the first International Preventive Dentistry Awards program must be received by the office of the FDI executive director by April 30, 1976, Dr. Ahlberg said. Award nominations will be presented by the judges to the FDI General Assembly when it meets during the FDI annual session in Athens, Greece, Sept. 25 to Oct. 1, 1976.

Any dentist, dental auxiliary, dental student or student auxiliary can obtain more information on the awards program by writing to FDI Executive Director, 64 Wimpole Street, London, WIM 8AL, United Kingdom.

NEW DENTAL RESEARCH PROJECT FOR CHILDREN FUNDED BY CFDE

"An award of $18,000, made possible by support from The Hospital for Sick Children Foundation, will be used to finance the first year of 'A Study of the Properties of Normal and Healing Mandibular Bone'," stated CFDE Board Chairman J.W. Neilson.

"The purpose of the project is to contribute to an improved clinical treatment procedure in children following fracture or osteotomy of the jaws. It is anticipated that the results of this research will be of immediate clinical benefit in the treatment of congenital malformations and mandibular fractures. It has been estimated that at least 500 such operations are performed per annum in Toronto alone. This study is also basic to the use of mandibular implants."

"The research will be conducted at the University of Toronto Dental Faculty under the direction of Dr. D.C. Smith, Professor of Dental Materials Science. Dr. D. Robertson will serve as Dr. Smith's research associate. Work will start immediately and it is expected that the project will be completed in approximately three years' time," said Dr. Neilson.

"The trustees are deeply grateful to The Hospital for Sick Children Foundation for supporting this promising research project," said Dr. Neilson.

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APPLICATIONS NOW BEING ACCEPTED FOR CFDE TEACHER TRAINING FELLOWSHIPS

Applications are invited for teacher/researcher training fellowships, it has just been announced by the Canadian Fund for Dental Education.

The deadline for filing applications is April 1, 1976. Forms and additional information may be obtained from the dean's office in any Canadian dental school or the Canadian Fund for Dental Education, 234 St. George St., Toronto, Ontario M5R 2P2.

Conditions

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or a school of dental hygiene. Preference will be given to those applicants who will return to a **full-time** teaching/research position. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give a year's full-time service to a school for each year of full fellowship support or a year's half-time service for each year of half fellowship support.

Each fellowship is for one year of study at the graduate level. The fellowship may be renewed if progress is satisfactory.

Two types of fellowships are awarded annually:

(a) CFDE Full Fellowship
awarded to applicants who have either a legal or a strong decanal commitment for full-time employment after training.

(b) CFDE Half Fellowship
awarded to applicants who have either a legal or a strong decanal commitment for half-time employment after training or to applicants who are enrolled in a basic science program (which is only of monetary value if the student obtains university employment after training).

The value of the fellowships will be determined annually by the Advisory Committee on Fellowship Selection and the Board of Trustees.

97 Dentists and 8 Dental Hygienists Have Been Awarded Fellowships

Since the program was started in 1964, the Fund has awarded 147 fellowships totalling $358,421 to 97 dentists to help them pursue teaching/research careers. 12 fellowships totalling $18,369 have also been awarded to assist 8 dental hygienists to prepare for teaching careers in Canadian schools.

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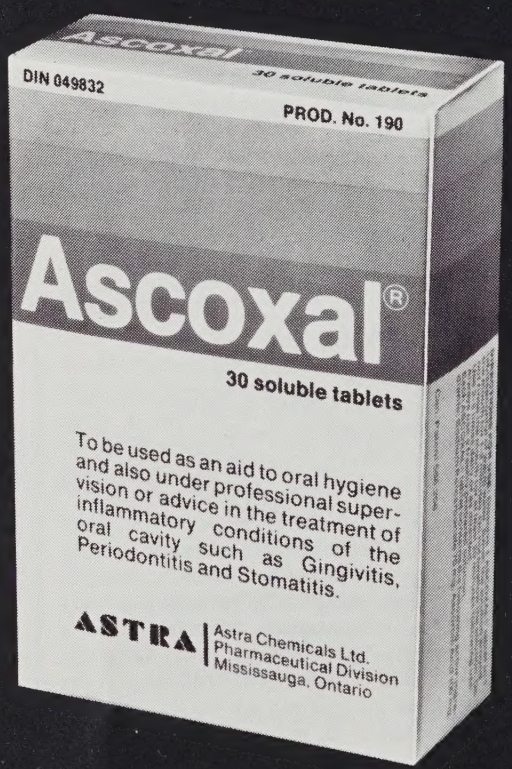

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SMOKING STATISTICS RELEASED

The percentage of Canadians who smoke has decreased steadily over the last 10 years, Health and Welfare Minister Marc Lalonde reports. Mr. Lalonde made the statement in releasing the 1974 statistics on the smoking habits of Canadians.

It is estimated that 55.3 per cent of the Canadian population 15 years of age and over do not smoke. The most significant increase in non-smokers (12 per cent between 1965 and 1974) has occurred in the male population 20 years of age and older.

The Minister said that although he is encouraged by the increase in the number of non-smokers, he welcomes the opportunity to remind Canadians of the health hazards associated with the use of tobacco. Mr. Lalonde also stressed the need to regulate tobacco smoke in confined or crowded areas accessible to the public in order to minimize the possible adverse effects of smoke on non-smokers. This concern was recently raised in the House of Commons when Bill C-242, "An Act respecting relief to non-smokers in transit", was introduced by Mr. Ken Robinson, Member of Parliament for Toronto-Lakeshore. The Standing Committee on Health, Welfare and Social Affairs is studying the Bill which has received full support from the Minister.

Mr. Lalonde also announced that his department has initiated a survey of Health and Welfare employees respecting smoke control in the working environment. The Minister said that most smokers are not aware of the discomfort and other difficulties imposed on those who do not smoke. It is hoped that the survey will assist officials in establishing departmental policy regarding no smoking areas in the office environment.

The smoking habit statistics, prepared for the department by Statistics Canada, show an increase of almost 5 per cent in the percentage of smokers between 1965 and 1974 in the teenage population 15 to 19 years of age. This change is due primarily to an increase in smoking behaviour among teenage girls. Data for the period 1972 to 1974 suggest however, that this trend among females 15 to 19 is levelling off. Non-smoking among teenage males has remained relatively stable over the 1965-1974 period.

Regular smoking, defined as daily use among the adult Canadian population, declined from 45.3 per cent in 1965 to 39.6 per cent in 1974. This change is the result of substantial decreases in regular smoking by males 20 years and over. During this time period the percentage of male regular smokers dropped 10.4 per cent. The regular use of cigarettes by women appears to have stabilized at 32 to 33 per cent of the adult female population.

As part of the Department of National Health and Welfare's continuing campaign to make Canadians aware of the effects of tobacco smoke on smokers and non-smokers, Mr. Lalonde has signed a letter jointly with the President of the Canadian Medical Association, Dr. L.C. Grisdale, that is being sent to 38,500 physicians across the country. The letter asks doctors to refrain from smoking while conducting professional duties and provides them with a prescription sign that asks patients in the waiting room to refrain from smoking as well. The Department is also revising its 1971 *Teacher's Guide on Smoking and Health* which provides teachers from grades 1 to 5 with 80 pages of information, activities and experiments about smoking. Copies of the report on smoking habits of Canadians (1974) are available upon request.

TENTH INTERNATIONAL CONFERENCE ON HEALTH EDUCATION

The International Union for Health Education is holding its tenth International Conference on Health Education in Ottawa, August 29 - September 3, 1976. The conference is being hosted by the Canadian Health Education Specialists Society and a number of official, voluntary, civic and professional agencies within Canada. Health educators from over 70 countries will be attending. The conference theme will be "Health Education and Health Policy in the Dynamics of Development". Four sub-themes have been outlined:

1. Health policy, social goals and the dynamics of development as bases for health education.
2. Trends in the organization of health care and their implications for health education.
3. Impact of health education on environmental risks and lifestyle modifications.
4. Emerging challenges in health education.

Although there will be no session on dental health education specifically, dental hygienists and educators with a special interest in health education may find the conference of value. Further information and application forms can be obtained from the Canadian Health Education Specialists Society, P.O. Box 2305, Station D, Ottawa, Ontario, K1P 5K0.

NEW DIETARY STANDARD FOR CANADA

National Health and Welfare Minister Marc Lalonde has made public a new Dietary Standard for Canada replacing that published in 1964. The Dietary Standard for Canada is a statement, based on scientific data, of the daily amounts of energy and essential nutrients considered adequate to meet the needs of practically all healthy Canadians. These recommended quantities exceed the minimum requirements for most individuals because they must take into account variation in human needs for specific nutrients.

The last complete revision of the Dietary Standard for Canada was published in 1964. Since then, a considerable amount of new information on nutrient requirements has been developed by nutritional experts. In response to the need to revise the Standard, an expert Committee was established in 1973 by the Health Protection Branch of the Department of National Health and Welfare.

The revised 1975 standard prepared by the Committee contains recommended daily intakes of energy and of 27 nutrients, an increase of 12 over the total in the 1964 standard. This increase in the number of nutrients was possible because of increased knowledge about the actual functions of these nutrients in the body. Changes have also been made in the age-weight-sex groupings since it was recognized that requirements vary with age, body size and physiological state.

The revised Dietary Standard will be used by many different groups concerned with planning diets, setting standards, procuring food supplies, developing policies for nutrient fortification and as a basis for advertising. It is available from Information Canada bookstores for $3.75.

Sharon B. French, Ottawa

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THE GERIATRIC DENTAL PATIENT: PSYCHOLOGICAL CONSIDERATIONS

SHERYL FELLER, R.D.H., B.A.

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Introduction

Recently, a new area of dentistry has come into focus. This is the area of "geriodontology" — the science and skills involved in providing dental services to elderly patients. In our society, the "magic number" for being classified as elderly is sixty-five — this is the age when society usually forces retirement and everything else associated with "being old" upon the individual. When referring to geriatric individuals, therefore, the reference will be to people of at least sixty-five years of age. Providing dental care to people over sixty-five is becoming increasingly important. More and more people are keeping their teeth until they die. Because of the advances that have been made in the areas of both prevention and treatment, there is no more reason to expect elderly people to lose all their teeth than there is to expect them all to become bald. Today, fewer individuals fit the stereotype of the "hollow-cheeked, sharp-chinned, hawk-nosed, edentulous old person."(1) Statistics prove that geriatric dentistry is becoming more important. Increased population, better health care, and various other factors have resulted in a population of people over sixty-five in the United States that is in excess of twenty million.(2) Only four per cent of this population is institutionalized which means that the remaining ninety-six per cent will be seeking dental care from general dental practitioners.(3)

When dealing with any person of any age, the dentist (and team members) must consider psychological as well as physical factors. We must remember that we are treating a person, not a mouth. Psychological factors are of great importance to the dental team — the patient's motivation, self-image, and attitudes are all important in determining how successful treatment will be. The aging process has profound effects upon the individual, his attitudes and behavior. Knowledge of this process is essential for dental personnel. The attitudes and desires of the elderly person must be assessed. For one individual, the desire may be for the relief of pain and the establishment of a clean mouth; for another, it may be extensive restorative work. Just as the dentist must be aware that the aging process affects dental conditions and treatment, he must also be aware that dental problems can interact with the aging process and cause psychological problems for the older person. Aging can be regarded as a series of losses — one loses physical power, an instrumental role in society, prestige, authority, close personal ties, income, sex drive, home and security, and "a future".(2) Loss of teeth may be regarded as another of these losses — one which can be very significant to the individual and one to which he finds it difficult to adjust. Losing teeth may stir up guilt if the individual feels that this is the result of life-long neglect. Another may see loss of teeth as a symbol of the real onset of aging. Losing teeth is a physical loss and affects the individual's appearance and feelings of pride. It may emphasize all the other losses that the person is encountering as he grows older. Some people feel that having their own teeth means that they have managed to retain their youth, and therefore, the loss of teeth is a very traumatic experience heralding the loss of youth, good looks, etc. The profound psychological effect that losing teeth can have is also a very good reason for saving teeth and stressing the prevention of dental disease.

Research on This Topic

The information contained in this paper has been obtained from reports written by dentists who have based their generalizations and comments upon personal experience. Experimental methods were not used. The research, therefore, is not scientific, but, it is nevertheless, a source of valuable information. Personal experience and comment may have more application to person-to-person interactions than artificial experiments. General knowledge of the aging process is important, however and, any information which research on aging reveals can be of great value. One would recommend that every health professional do his own research by taking the time to

try to assess each patient's personality and problems and then considering these factors when treating the individual's health problems. The importance of a knowledge of the psychology of aging to dentists and their auxiliaries has been summed up as follows: "the dentist involved in geriatric treatment should have a knowledge of gerontology theory and the problems of aging . . . this will result in a higher standard of patient care and . . . a greater measure of success and satisfaction from treating geriatric patients".(2)

Factors to be Considered When Treating Geriatric Patients

Various factors are important when planning dental treatment for the geriatric patient. As well as the individual's oral conditions, one must consider other physiological factors, the social situation of the person, his attitudes, the expectations which others have of him, his own self-image, and behavioral changes. Each of these factors is related to the process and problems of aging and each has a definite influence on dental treatment.

Physiological Factors

Physiological changes associated with aging usually tend to bring about an increasing dependency of the older person on others. His muscular strength and speed of reactions decrease and various sensory losses occur. Many debilitating conditions also tend to have a higher frequency during old age. Sensory losses are extremely important to the elderly person (to anyone, for that matter). Visual impairment causes the person to become more "accident prone" and to learn and perceive more slowly. Hearing loss can cause marked personality changes and growing isolation of the individual. When a person cannot hear, he tends to withdraw from others as he does not want to bother them to repeat things and because his overall level of communication is low. Taste is another of the senses affected by the aging process. The number of taste buds in the papillae of the tongue show a sixty-four per cent decrease from young adulthood to the seventy-five to eighty-five decade.(4) This is related to the loss of appetite that many older people experience. Loss of appetite can lead to more severe problems such as malnutrition and anemia. Also related to loss of appetite in older people is the fact, that over the age of sixty-five, sixty per cent of men and seventy per cent of women are edentulous.(4) All these factors are important to the members of the dental team — careful, clear explanations will be more difficult to communicate to the person with a sensory handicap. Often associated with the sensory loss is a general lack of motivation and it may be difficult to convince the afflicted individual that his oral health is important. Even though this situation is changing, at present, the majority of persons over sixty-five are edentulous, therefore, much of the dental treatment for these individuals will be the construction, fitting, and maintenance of dentures. Physiological factors are very important here, because, certain conditions, such as loss of muscle tone and resorption of alveolar bone, can make it difficult or impossible to make a "good" set of dentures that both fit well and have a pleasing, natural appearance. When making a set of dentures for a person, psychological factors are just as important as the physiological ones for they will determine whether the individual will accept the dentures and make an effort to adjust to them.

Social Situation

Many elderly people find themselves in a harsh and lonely social environment. One of the problems of advancing age is the isolation that is encountered. Friends and relatives die, become sick, or move away and one's faulty social skills become more obvious, making social interaction more difficult for the older person. Another problem that certain individuals may encounter is the difficulty of adjusting to lowered levels of achievement and activity. These problems can lead to feelings of desolation — the individual may feel that he has been excluded from all the main streams of life activity. Isolation is a problem that can be overcome by efforts of the family and community. Planned activities and educational programs can be quite helpful. Health professionals can play an important part in maintaining an individual's feelings of "belonging" and "being in touch." Dental team members often encounter older people who feel isolated and who long for any sort of friendly, social contact. These are the patients who come in every week or so to have something in their mouths checked or to have their dentures adjusted. The dental problem is usually very minor or non-existent — it is attention and company that the patient is seeking. Many older persons tend to become preoccupied with their health and this preoccupation coupled with a need for social interaction, can result in the spending of much time and money seeking help from professionals mainly just for "listening" service. Professionals should keep in mind the point that a few minutes of friendly conversation may be the most valuable service that they provide.

Attitudes

One characteristic of old age that observers have noted is that the older person becomes "more like himself." Characteristics and attitudes of the younger individual become more pronounced in the same person as he grows older.

Attitudes towards dental health will not change to any great extent as the patient gets older except that certain feelings and responses may be intensified. The older person tends to fall back on familiar defense mechanisms against stress and the use of these characteristic patterns results in what is regarded as "rigid" behavior. Attitudes and strong feelings usually have a deep-rooted history and the elderly person who had a bad experience with a dentist during his childhood and has subsequently experienced much fear and anxiety about visits to the dentist may find these fears growing even more intense as he grows older. The dentist must be aware that previous fears and anxiety may increase during old age and try to help the patient to overcome this. Every effort should be made to help the patient relax — through friendly conversation, a relaxed atmosphere, and, if necessary, perhaps the use of tranquilizers, nitrous oxide sedation, or hypnosis. Another "attitude problem" of old age is that an individual may experience a great loss of self-esteem when he or she retires accompanied by feelings of guilt about being inactive and non-productive in the economic sense. Needs for special health care may emphasize these feelings of helplessness and of being a "burden" rather than an asset to society and so an individual may avoid all types of health care including dental care. A physiological factor related to this avoidance is the fact that pain threshold tends to increase with age and the geriatric patient may tolerate rampant tooth decay or severe periodontal disease for a long period of time before complaining. When he finally does complain, the disease process will be quite advanced and difficult to treat. The older person's attitudes towards dental health may reflect his attitudes towards many other aspects of his life and this includes his motivation for maintaining dental health. Motivation is the key to obtaining and maintaining a healthy mouth in any individual and this fact does not change with the age of the person. The patient must want to look after his own mouth. Absence of motivation or limited motivation is a problem that is frequently encountered when working with geriatric patients. A lack of motivation will usually have been a problem in the past history of the person but it may have been intensified by other problems that the individual has encountered as he grows older. Loss of friends, relatives, job, prestige, etc. may result in a person feeling as if he has lost the future and that there is no point in "trying" any longer. The patient may feel that it is pointless for him to try to establish a healthy mouth as there is "nothing left" for him in life. Of course, motivational levels vary from person to person and the older person who has adjusted well to senescence will usually maintain fairly high levels of motivation. Dentists too may lack the motivation to treat older patients. This may be related to their own fears about aging and usually reflects a negative attitude about old age. They too may rationalize their feelings and attitudes with the "after all, all is lost, or about to be lost, so why bother" attitude.(5)

Expectations and Self-Image

How others expect a person to behave has a profound effect on that person's behavior. "Labelling" and stereotyping can be very damaging and "both younger and older people have largely accepted the lie about the lack of capabilities of older adults".(4) Senility is not a function of age alone — it is the result of a number of factors including malnutrition, lack of mental activity, isolation, and chronic illness. If an elderly person feels that everyone expects him to be chronically dependent and to function at a low level, he will come to play this role that has been assigned to him. Dentists and auxiliaries should caution themselves against automatically expecting very little from geriatric patients and against "writing off" elderly patients because of unusual behaviors or initial signs of non-comprehension. One should keep in mind that "people are never too old, barring extreme brain damage, to learn, to adjust, to make improvements in some direction."(4) Service should be of as high a quality as it is for younger patients. It is a great injustice to the elderly person if he is helped merely to be a "more enduring vegetable".(4) Older people should be expected to accept responsibility and maintain a reasonable level of activity.

Self-image is also an important factor in determining what kind of dental patient the geriatric individual will be and what kind of services should be offered to him. Facial appearance is an important part of one's self-image and the emphasis that an individual places on his "looks" are critical in determining his attitude toward dental health. Great pride plus motivation to maintain an attractive appearance will result in a patient who really cares about his teeth and who will make sure he looks after them properly. If dentures are necessary, pride can motivate an individual to make an effort to adjust to them and make sure that they fit properly at all times. Yet pride can also arouse strong feelings that loss of teeth heralds the destruction of youth and a positive self-image may become a negative one. If a person feels that his youth is lost forever, he may lose interest in his personal appearance and health care. A person who has always had a negative self-image may find these feelings intensified as he grows older and (he thinks) uglier. These feelings too can lead to different reactions — one person may do everything he can to have nice teeth or a good denture

in order to enhance his appearance and another may feel that "nothing will help" and have no interest in dental health at all.

Behavioral Changes

Among the most common types of behavioral changes of old people are the state of depression and the various degrees of psychiatric syndromes such as organic brain disease and senile psychosis. Depression is a common reaction to frustration or insecurity and is frequently encountered among older people. These people are in the process of losing friends and relatives, physical well-being, and status in the work community, to mention only a few. Dental problems may aggravate conditions leading to depression as "tooth loss becomes but another reminder to the patient that he too has begun a physical decline."(1) Depression is common among people who no longer have any family or close friends and these people may find that visits to professionals such as dentists help to "lift their spirits" temporarily. Certain dental problems which the dentist sees have been shown to be associated with depression: mildly depressed people (of all ages) often complain of a dry, burning mouth and an alteration in their taste sense. The dentist should be aware of this relationship when he is trying to make a diagnosis, especially if there seems to be no apparent local cause. Often a sympathetic, understanding "talk session" will help relieve a supposed dental problem.

Behavioral changes in elderly people involve many changes and to varying degrees. Some changes resulting from the aging process are slowing of psychomotor reaction time, slowing down of mental processes such as association learning and quick comprehension, fading memory, declining responsiveness and initiative, and increasing egocentricity (narrowing of interest). The effects of these changes can range from mild to severe. A mild absent-mindedness may be revealed only by a loss of memory for recent events. The individual's memory for past experiences may be completely unaffected. The person who has vivid recollections of past experiences may also tend to fabricate incidents when he is telling his anecdotes. This tendency can be significant during a dental appointment when reviewing the patient's medical and dental history. The history may sound reasonable but it may not be accurate. Another mild type of behavioral change seen in elderly persons is a general confusion and periodic disorientation. In some types of psychosis affecting older people this may become quite severe. If the elderly person is mildly confused, guidance is often very helpful. A confused person should be told where he is and what he is supposed to be doing. This is often enough to enable the individual to function efficiently in the situation. A visit to the dentist may be a situation in which the older person easily becomes confused because of the unfamiliar environment and, perahps, because of the revival of old fears and anxieties. The dentist or dental auxiliary who is working with a confused patient should be understanding and explain the situation to the person to help orient him. Comprehension may be slow so that explanations and demonstrations have to be simple and concrete. The confused patient will usually respond appropriately if he is given enough time to adjust to the situation and is given lots of personal attention.

Certain types of psychotic reactions are not infrequent among old people. Among these is the "senile psychosis", more commonly called "senility." People whose behavior changes dramatically because of this problem may display extreme confusion and loss of contact with the environment, extreme depression or agitation, and paranoid symptoms usually of a persecutory nature. Dental treatment may be a problem for someone whose behavior has been altered radically by senile psychosis or some other type of severe mental impairment. Tranquilizers or general anaesthesia may be necessary in order to treat the patient. However, even persons with severe psychosis can respond under proper conditions and one must try not to give up hope too easily. One patient who was diagnosed as psychotic, confounded his behavioral problem with a dental one: this patient "amassed a collection of complete dentures of every type and was constantly in search of relief from a burning tongue . . . he was also an alcoholic, smoked at least three packs of cigarettes a day, was married and divorced twice, and was slowly destroying himself".(6)

Application of This Knowledge

A dentist can provide much better care to his older patients if he understands the aging process and realizes how various aspects of "growing old" can affect dental health and care. When dealing with a geriatric patient, the dentist should try to assess the individual's personality and problems as well as his oral condition. The patient's attitudes about dental health and his motivation are crucial to the success of any treatment and it has been observed that dental failures with geriatric patients are usually due to the fact that "the changes that accompany the aging process were overlooked or ignored".(6) The dentist usually uses conversation as his means of obtaining information about his patient. He can evaluate degrees of co-operation and receptiveness in a few minutes of conversation and then decide how the patient will accept and maintain a new denture, how he will undergo restorative procedures, etc. If the

patient has been seen by the dentist for several years, the dentist may note changes in his level of personal care, in his attitudes, and in his manner which may reveal underlying problems which may affect the type of dental care he should receive. Dworkin (1970) feels that the dentist should try to assess each geriatric patient on three characteristics: 1. rigidity - flexibility; that is, to what degree has falling back on time-tested ways of coping with life made the patient "rigid." A patient who is very inflexible will probably not accept new types of dental treatment easily; 2. irritability - agreeableness: how agreeable and willing to cooperate the patient is greatly affects how the dentist will "handle" the patient and at what level optimum treatment will be found for him; 3. comprehension - non-comprehension: the patient's ability and willingness to understand is very important.(7) If these three factors can be evaluated in each geriatric patient, then treatment planning can be individualized. The dentist must also consider the medical history of the patient. Physiological changes are important, as for the patient who is deteriorating rapidly, treatment may have to be minimal and restricted to relief of pain. The patient's feelings about his health are also important — the patient should be asked if he feels "up to" whatever treatment is recommended. By evaluating the patient's physical and psychological health, the dentist can then decide what will be best for that individual. Often, a "country doctor" type of approach is successful with geriatric patients. These people greatly appreciate someone who is warm, understanding, and a good listener. Over-solicitiousness is to be avoided, however — it is artificial and may elicit either resentment or over-dependence from the patient.

Conclusion

The importance of assessing the geriatric dental patient's psychological make-up cannot be underestimated. Failing to take psychological factors into account can result in the failure of dental treatment. The successful treatment of geriatric patients depends largely upon knowledge of the aging process and the aged. Physiological factors, social situation, attitudes, expectations, self-image and unusual behaviors are all important factors which must be considered when planning treatment for the geriatric patient.

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LEGISLATION

THE QUEBEC PROFESSIONS BILL

SHARON AITKEN, R.D.H.

Mrs. Aitken is one of the Directors of the Bureau of The Professional Corporation of Dental Hygienists of Quebec.

In 1973, the Government of Quebec passed the Quebec Professions Bill (Bill 250). The main objects of this bill were to establish procedure and rules of discipline to be followed by the professional corporations subject to the Professional Code, to institute a uniform system as regards these corporations for ascertaining the quality of the professional acts done by their members, to constitute a Quebec Professions Board to see that the professional corporations ensure the protection of the public, and to set up a Quebec Interprofessional Council which will make recommendations to the Board and Government. (1)

Bill 250 had a tremendous impact on all professions. For the older, more established ones such as dentistry, medicine, law and nursing, the "closed society" of their associations was opened up to allow more government intervention. For the smaller, unestablished ones such as dental hygiene, the status of their profession was brought to a level equal to that of the older, established groups. In addition, many smaller professions previously under the control of a larger "parent" profession, were made into individual independent corporations. To this end, the practice of the profession of dental hygiene was removed from the control of the dental profession and the creation of The Professional Corporation of Dental Hygienists of Quebec allowed for dental hygienists to govern themselves. This type of legislation was a "first" in North America for the profession of dental hygiene. No other province in Canada or state in the U.S.A. has removed the control of the practice of dental hygiene from the dental profession.

Structure of the Quebec Professions Bill

See Figure 1.

Professional Corporations

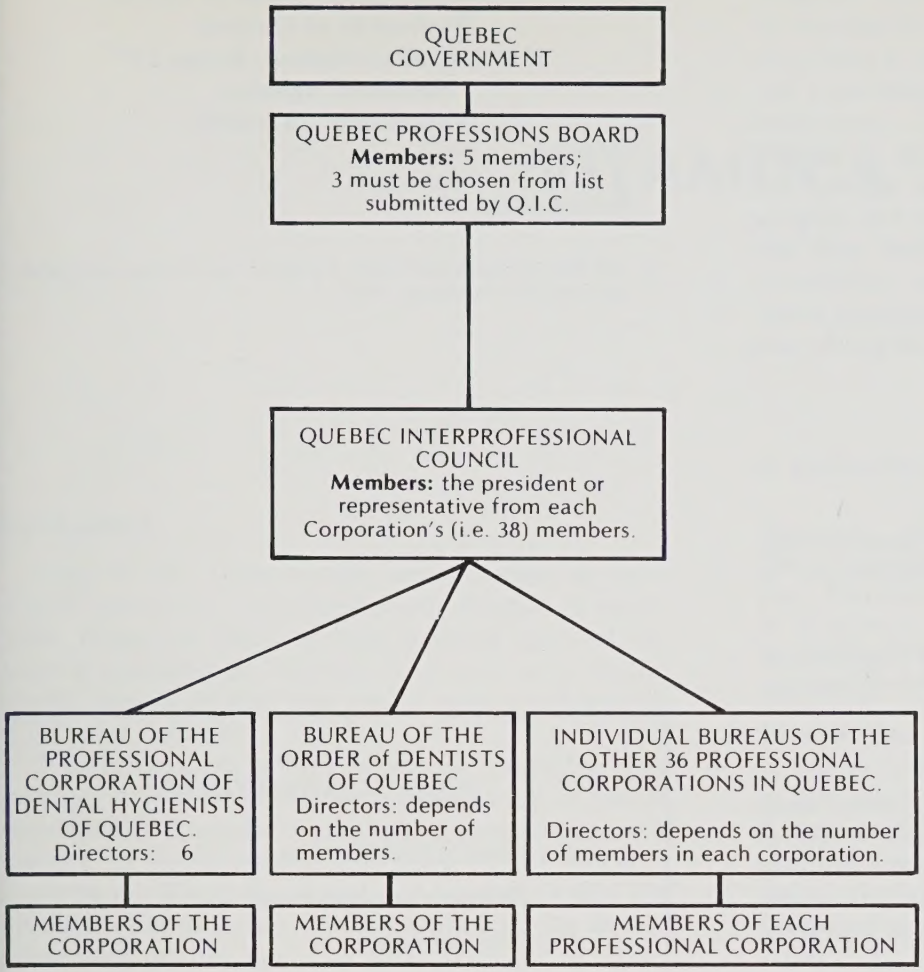
A professional corporation is an organized group of individuals belonging to the same profession and of similar educational background represented by the Government to ensure that the pubic is protected by supervising the practice of its members. In addition, the professional corporation is responsible for the licensure and moral conduct of its members.

There are two types of professional corporations, those with "exclusive" titles and those with "reserved" titles. An exclusive title forbids the practice of the profession by persons other than those who hold an appropriate permit and are entered on the roll of the corporation and also forbids other persons from using the title of the professional, e.g. The Professional Corporation of Dentists of Quebec. A reserved title gives the right to members of a particular corporation to use the title reserved for them, e.g. The Professional Corporation of Dental Hygienists of Quebec. Other persons may perform the function of a reserved title but they cannot be called by the title of the profession.

Administration

All professional corporations are administered by bureaus composed of directors, some of whom are elected by the members of the corporation and others whom are appointed by the Quebec Professions Board. The number of directors varies according to the number of members of the corporation. The Directors of the Professional Corporation of Dental Hygienists of Quebec are: Mme. Sylvie Aubray, President; Mme. Diane Harvey, Treasurer; Mlle. Monick Valois, Secretary; Mme. Valerie Tod; Mme. Sharon Aitken; Mr. Boisvert, Mme. Lalonde, External Members. The Directors of the bureau must meet at least once every three months and the general membership meets once per year. At this annual meeting, the

FIGURE 1 **STRUCTURE OF THE QUEBEC PROFESSIONS BILL (BILL 250)**



MAIN FUNCTIONS:
1. Sees that each professional corporation ensures the protection of the public.

2. Establishes new corporations; or amalgamation or dissolution of existing corporations and amendments to the acts governing them.

3. Government may place under the Board Corporations which have insufficient funds.

MAIN FUNCTIONS:
1. Study general problems of the professional corporations.

2. Invite the professional groups whose members are engaged in related activities to get together to find solutions to their problems.

3. Make recommendations to the Board and the Government respecting application of groups wishing to be recognized as a professional corporation.

MAIN FUNCTIONS: Ensures that the public is protected by supervising the profession of the members.

President of the Corporation must report on the activities of the Corporation and provide a financial statement.

The main functions of the bureau of a corporation are to:

1. Keep an up-to-date roll of the members of the corporation.
2. Recognize the equivalence of diplomas issued outside the Province of Quebec.
3. Issue specialist certificates where necessary.
4. Organize refresher courses or training periods for professionals.
5. Fix the contributions exigible from the members of the corporation.
6. Pass regulations to:
   a. Adopt a code of ethics
   b. Establish arbitration procedure for the accounts of the members of the corporation
   c. Establish an indemnity fund
   d. Prescribe the standards for keeping of professionals' offices
   e. Define specializations within the profession
   f. Determine the acts which may be performed by a person serving a period of professional training
   g. Determine terms and conditions for issuing permits, specialist certificates and special authorizations
   h. Determine the cases in which professionals may be obliged to serve a period of training.

The regulations of the bureau must be published in the Quebec Official Gazette and submitted for approval to the Lieutenant-Governor in Council, and in certain cases must be sent to the members of the corporation at least thirty days before the bureau passes them.

Committees

There are three committees of the bureau: the Professional Inspection Committee, the Discipline Committee and the Indemnity Fund Commitee. The Professional Inspection Committee, composed of not less than three members appointed by the bureau, supervises the quality of the professional acts done by its members including

inspection of members' records, books and registers and inquiries into the professional conduct and competency of any member of the corporation. The Discipline Committee is composed of three members and is headed up by a president who is a lawyer with ten years of experience appointed by the government. This committee makes inquiries to determine whether a professional has been guilty of an offence against the Professional Code and is responsible for lodging any complaint which appears justified with the Committee on Discipline, listening to complaints in accordance with a procedure determined in the bill, imposing penalties on those found guilty and participating in the appeals.

Permits to Practice

The conditions for issuing permits pertaining to **any** corporation are:

1. Forbidden to refuse a permit because of sex, color, race, religion, national extraction or social origin.
2. A person must hold a diploma recognized as valid by the Government or considered equivalent by the corporation.
3. Domicile must be in Quebec.
4. If not a Canadian citizen, the applicant must promise to apply for Canadian citizenship as soon as it is possible. Except for the following professions, one must be a Canadian citizen before a permit can be issued: lawyers, notaries, land surveyors.
5. Must have a working knowledge of French according to standards set by regulation, except for a temporary permit which is valid for one year. (A corporation will nevertheless have the right to issue a restrictive permit to a Canadian citizen who is a member of a similar corporation of another province and does not have a working knowledge of French. This allows him to practice his profession for one employer exclusively in a position not involving direct contact with the public.)
6. Possess a physical or mental condition compatible with the practice of the profession governed by that corporation.

The requirements to obtain a permit to practice dental hygiene in the Province of Quebec are:

1. Fulfill requirements as listed under "Conditions for issuing permits to any Corporation".
2. Official transcript(s) of marks obtained at places of education.
3. Two signed passport pictures.
4. A cheque for one hundred dollars made payable to the "Professional Corporations of Dental Hygienists of Quebec".

Applications for Registration

Applications for registration should be sent to:

Professional Corporation of Dental Hygienists of Quebec
5757 Decelles Avenue, Room 237
Montreal, Quebec
Telephone: 733-4098

References:

1. Bill 250, Professional Code, National Association of Quebec. Quebec Off. Publisher, 1973.

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VITAMIN A*

VITAMIN A

Early in this century, the identification of vitamin A marked a major step in the history of nutrition. However, even though a great deal of research centered on vitamin A, a lack of it in the North American diet has never been a subject of particular concern.

This is understandable when we consider that vitamin A is distributed in a great range of foods available in Canada — and so, a person eating a variety of foods would normally obtain enough vitamin A. Secondly, vitamin A is one of the fat soluble vitamins that can be stored in the body. Therefore on the day you treat yourself to liver, you are consuming 3 to 5 times your daily vitamin A requirement and your body is likely to store some of this surplus. The same is not true of all other vitamins.

The Need for Vitamin A

Vitamin A is essential for growth and vision and helps assure resistance to infection. The first sign of a deficiency in vitamin A is characterized by an impaired vision in darkness called "night blindness". In the past this symptom was observed in Newfoundland fishermen and was relieved in 12 to 24 hours by the use of cod liver oil.

It is possible for man to store enough vitamin A to last for 3 months to a year or more. The body calls on these reserves when infection or illness strikes.

Vitamin A Reserves in Canadians

Recent studies, pursued by the Nutrition Research Division of the Food and Drug Directorate, indicate that some Canadians have insufficient reserves of vitamin A. Analysis of human liver specimens in five Canadian cities revealed that 10% of the subjects studied had no detectable reserve of vitamin A and 21% of them had no more than a new born baby. A regional difference was also noted with 15% of the samples from Vancouver showing insufficient reserves while 40% of the samples from Montreal were below par. The cause of the inadequate stores of vitamin A in many Canadians has not been elucidated but the present results suggest the need for improved nutrition.

How Is Your Vitamin A Intake?

Butter, whole milk, fruits and vegetables eaten in the quantity recommended in Canada's Food Guide would provide the daily requirement of vitamin A. However for health or economic reasons, many Canadians are using butter substitutes and skimmed or partly skimmed milk. The vitamin A content of such products is extremely low unless they have been fortified. This is why, under FDD regulations, there are provisions which allow the enrichment of the following products with vitamin A: margarine, skim milk in any form, partially skim milk, prepared baby formula and flavoured beverage mixes for addition to milk. Addition of vitamin A to breakfast substitutes is mandatory.

Suggestions for Assuring an Adequate Intake of Vitamin A

a) In the diet of the growing child whole milk constitutes a major source of vitamin A. Skim milk, partially skim milk, or infant formula could be considered proper substitutes only if enriched with vitamin A. In selecting a prepared baby formula read your label and buy only products with added vitamin A. If you cannot find skim milk or partially skim milk (2%) with added vitamin A on the market, ask your dairy for it.

b) Two servings of both fruits and vegetables are a daily **must**. For youngsters who are reluctant to eat two cooked vegetables per day, raw vegetables, salads and tomato juice are good substitutes.

*Dispatch, Educational Services,
Health Protection Branch,
Health and Welfare Canada

FOOD SOURCES PROVIDING VITAMIN A

Approximately 100% of your daily needs*		Approximately 50% of your daily needs	
Liver		Apricots	one
Carrots		Broccoli	serving
Spinach	one	Liverwurst	
Pumpkin	serving		
Cantelope			
Winter squash			

Approximately 25% of your daily needs		Approximately 10% of your daily needs	
Tomato		Cheddar cheese	1 oz.
Peach		Cream - coffee	2 oz.
Nectarine			
Prunes	one	Green beans	
Tomato Juice	serving	Peas	
Cherries		Lettuce	one
Watermelon		Brussel sprouts	serving
Kidney		Summer squash	
		Asparagus	
Butter	2 tbsp.	Ice cream	
Fortified margarine	2 tbsp.		
Egg	2		
Milk Whole	2½ cups		

*The recommended daily intake of vitamin A for adults in Canada is 3700 I.U.

c) To boost the amount of vitamin A consumed, butter or fortified margarine could be used in cooking; oils and shortenings do not contain vitamin A. The presence of vitamin A in a margarine is indicated on the label.
d) Liver once a week is sure to fill up any gap left.
e) When, for some reason, it is not possible to eat a varied diet, vitamin supplements may be necessary and it would be wise, under these circumstances, to contact your physician.

Bibliography

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3. Bowes A de P., Church C.F. Food Values of Portions Commonly Used. J.B. Lippincott Company, 10th ed. 1966.
4. Dubuc M.B., Caron-Lahaie L. Valeur nutritive des aliments. Universite de Montreal, 1969.
5. Goodhart R.S., Vitamin A - from Wohl M.G., Goodhart R.S. Modern Nutrition in Health and Disease. Lea & Febiger, Phil. 1968.
6. Dietary Standard for Canada. Canadian Bulletin on Nutrition Vol. 6, March 1964.
7. Educational Services, Health and Welfare Canada.

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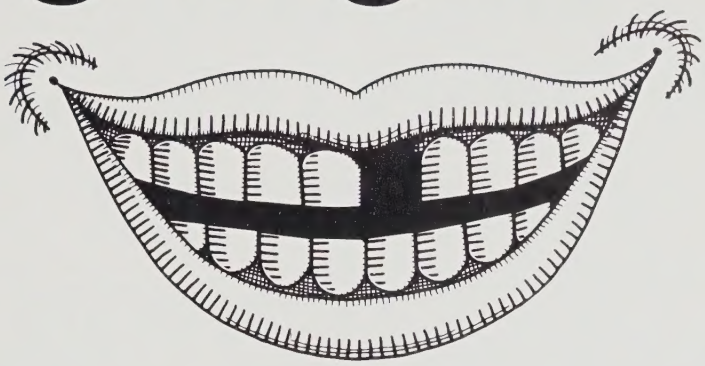

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THE CANADIAN DENTAL HYGIENIST
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SUMMER 1976 ETE **VOLUME 10, No. 2**

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L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous trois mois.

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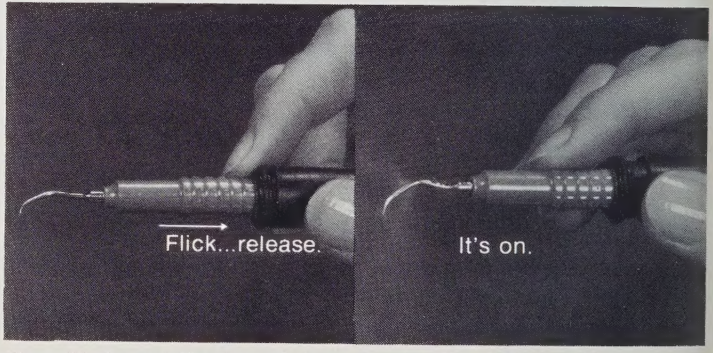

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TRANSITION

Mrs. Wilma Motley of Northridge, California, was recently honoured for her outstanding editorial writing when she was named the winner of the William J. Gies Editorial Award during the 1975 annual session for the American Association of Dental Editors. Mrs. Motley is a former president of the American Dental Hygienists' Association and of the Southern California Dental Hygienists' Association.

Dental hygiene, no matter where it is practiced, is facing a time of transition. The decisions to be made are momentous for they will affect practice, education and licensure/registration. Dental hygienists need to make some fundamental decisions in order that they can have an orderly, meaningful impact on their professional future. They must agree, at least by majority, what their role should be as an auxiliary of dentistry.

First, and foremost, will we retain our identity as the principal direct patient care auxiliary for dentistry, or will there be just one auxiliary? Beyond this major choice, and I believe it should be to retain our identity, will we remain as we are with present functions, will we become more periodontally oriented, or will we move into the restorative area? In addition to any new role assigned to us, we must become more involved with public health needs and more of us must become skilled administrators.

As dental hygiene has grown and developed professionally and organizationally it has been delegated more responsibility for decision making and administration of programs directly affecting it. The interdependence of dentistry and dental hygiene in achieving their common goal of delivery of quality dental care has been an influencing factor in this delegation. Although the final decision on our role may not be ours, I like to believe that if we can agree and logically substantiate our requests our voices will be heard and our wishes will be given serious consideration. Since we work under the supervision of a dentist, who is charged with the ultimate responsibility for services given his patients, it is right that dentistry makes that judgment.

If the role of the dental hygienist is to be altered to allow an expansion of services, education will necessarily be affected. Curricula will have to be modified in order that new dental hygiene practice criteria can be met. Teaching/learning modalities are already undergoing change in response to recognition of students' more sophisticated learning challenges. Dental hygienists' stature and identification as an important, responsible auxiliary to dentistry is predicated on the required basic college level education and licensure, and these must be vigorously supported.

It is the responsibility and obligation of each dental hygiene program to prepare its graduates for practice in any one of the national jurisdictions. States rights are to be recognized, but individual rights, including the right to meet all licensure requirements, cannot be ignored.

We must ensure that universities are allowed the academic freedom to continue controlled research and experimentation in alternate methods of delivery of oral health care and expanded functions of dental auxiliaries. Dentists who do not care to utilize other than their present mode of practice must not be allowed to restrict the rights of those who can see benefits in other systems. We also realize that not all dental hygienists will care to perform all expanded functions, but fortunately our system allows a choice to both dentist and dental hygienist. Minds must be kept open to consideration of all possibilities, but no one should ever expect immediate change.

Licensure/registration need not be changed appreciably although more flexibility is desirable. As dental practice acts in the States are being revised they tend to be worded in more open terms. Dental procedures reserved to the dentist are listed and the state board of dental examiners is given the power to promulgate regulations which specify the services various categories of dental auxiliaries may perform.

If we can understand the fundamental facts underlying this time of transition for dental hygiene and dentistry, if we actively protect our profession's basic principles, and if we work co-operatively with dentistry, an assured and satisfying future can be ours.

Wilma, Motley, Editor
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Curiosity is a normal trait in kittens and young children.

Children under the age of five are in a constant state of growth and development. They are constantly exploring and learning about the world around them.

Unfortunately, a child's curiosity can get the better of him. What is seen is reached for, and is apt to be put into the mouth. And today one of the most serious medical emergencies facing youngsters is the hazard of accidental poisoning.

This year, more than 500,000 youngsters will swallow poisonous materials — including medicines — found in their own homes. About 2,000 young children will die.

Counselling patients, particularly parents, in the proper use and respect of medications is an important aspect of a comprehensive prevention program in a dental practice. Your patients will be grateful to you for discussing this problem with them.

Implementation of the Poison Prevention Packaging Act in 1970 has undoubtedly gone a long way toward preventing some of the accidental ingestions among children. Many prescriptions and over-the-counter dental medications already are being packaged in containers that are very difficult for a youngster to open. In addition, you may still want to remind the pharmacist that you prefer a safety package.

At the same time, it is important to inform parents on how to protect their children and themselves from the misuse of the drugs we prescribe and recommend. For instance, safety features on packages are relatively new to many patients, and they should be shown how to close the packages after using them so the safety features continue to work.

Children are ingenious. Even the Poison Prevention Packaging Law recognizes this fact. Procedures by which manufacturers test the effectiveness of their containers indicate the probability that two of every ten children will be able to open the container.

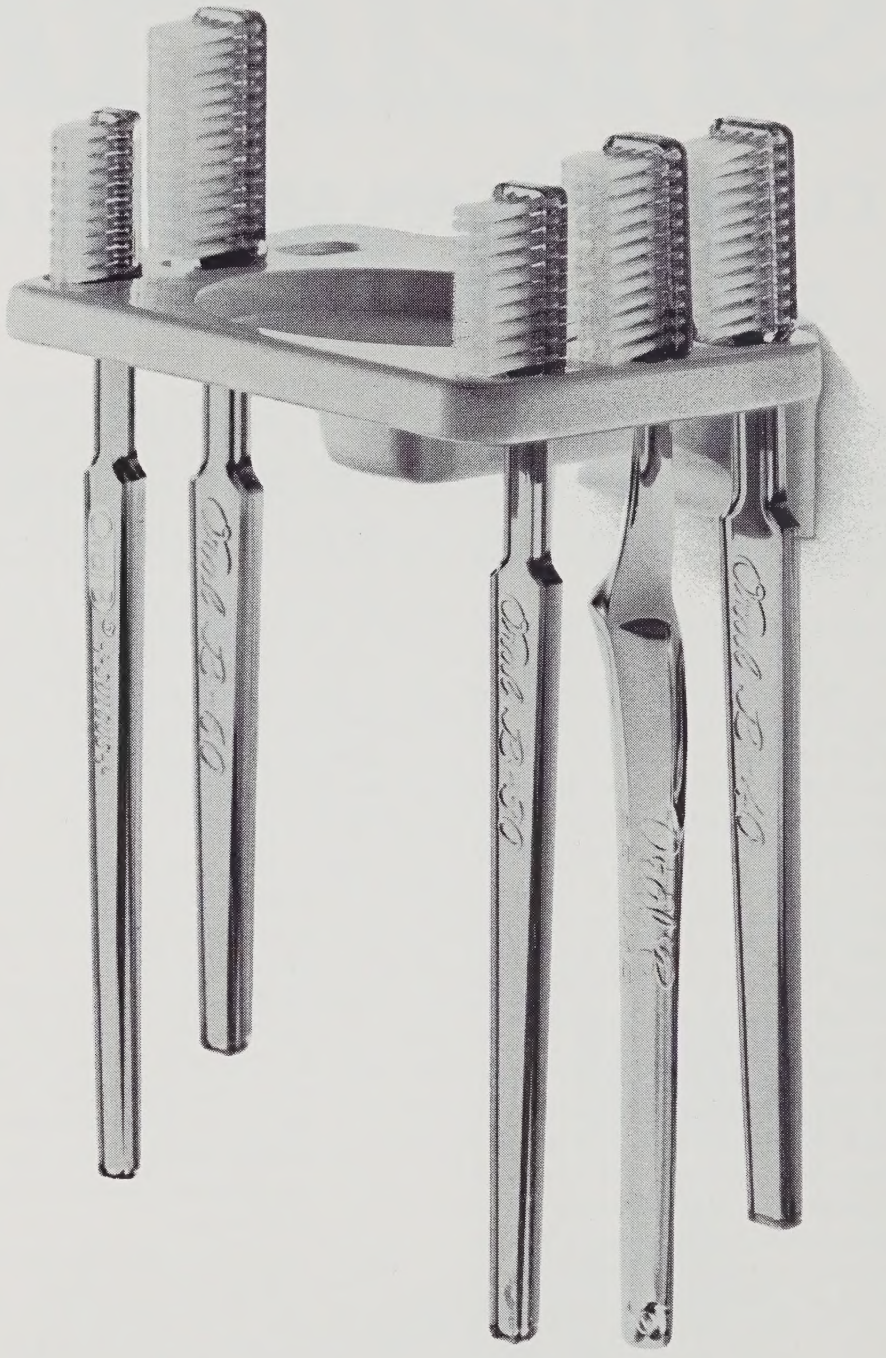
The closed bottle is a challenge to the child. Studies have shown that crawlers and toddlers most frequently ingest substances found on the floor or on furniture tops while the slightly older child — who has learned to climb — finds tempting items stored in medicine cabinets or on open shelves.

Instructing patients on the dangers of misusing medications should include information on storing them in places out of reach of youngsters and, preferably, locked up when not in use. Other pointers might include:

- Open medicines should never be out of sight of adults, even if it means taking the product with you when answering the telephone or the doorbell.
- Medicines should be kept in their original containers, never in cups or soft drink containers.
- All products should be properly labeled. Labels should be read before using, paying close attention to recommended dosages.
- Adults should avoid taking medicines in front of children, since youngsters tend to imitate their elders.
- Medicines should never be referred to as "candy".
- The medicine cabinet should be cleaned out periodically. Unneeded medicines should be disposed of.
- The light should always be on when giving or taking medicines.
- Internal medicine should be stored separately from other household products.

This is a good time to re-examine our habits relating to medications of all types to be sure that we are doing our part to help prevent accidental poisonings.

Because you can't make house calls.



Preventive dentistry begins in your office, but it has to continue in the home. So Oral-B tooth/gum brushes were designed by a professional to bring proper dental care into the home. Soft end-polished bristles allow gentle massaging to stimulate the gums. Yet, the tufts are firm enough to do an effective and thorough job of cleaning teeth.

When used conscientiously, the Oral-B tooth/gum brush gives your patient a head start against plaque. You might say, it's the next best thing to you being there.

Oral-B is available in a variety of sizes for all members of the family. Send for your free dentist's samples of Oral-B, the professional tooth and gum brush.

Oral-B®

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Cooper

Cooper Laboratories Limited
Boisbriand, Québec.

A DENTAL AND NUTRITION EDUCATION PERSPECTIVE

The "cold war" between the dentists and nutritionists has finally been resolved. The caries-conscious dentists and the nutrition-conscious nutritionists have now joined forces in their quest for better eating practices.

No longer will dentists suggest pretzels and potato chips for snacks nor will nutritionists recommend raisins and ice cream. At least, that was the expectation of the group that initiated and formulated the following dental and nutrition education policy.

It is now up to those in dentistry and nutrition to promote the following position paper within their ranks and ultimately among the general population.

A POSITION PAPER: Dental and Nutrition Education Perspective

Good food habits throughout life, in harmony with other aspects of health care, provide a strong foundation for optimal community health. Yet recent Nutrition Canada (1973) results indicate wide-spread obesity in adults and inadequate intake of key nutrients in all age groups. Furthermore, the incidence of dental disease is unnecessarily high.

It is essential, therefore, that health practitioners, agencies and individuals in the community assume greater responsibility for improving the quality of the population's food intake. Thus, when dentists and nutritionists recommend foods/snacks for the community both their contribution to dental disease and their nutritional value must be considered. The following 4 food categories combine these two philosophies:

1. **Good Dental and Nutritional Foods/Snacks***
   Plain milk, plain yogurt, cheese
   Raw fruits and vegetables, unsweetened fruit or vegetable juices, tossed salads or coleslaw
   Plain muffins, plain whole grain or enriched breads and cereals, crackers
   Hard cooked devilled eggs, peanuts, pistachios, mixed nuts, seeds (sunflower, pumpkin, sesame)
   Nuts & Bolts, sandwiches filled with meat, poultry, fish, eggs, cheese or peanut butter, hot dogs, hamburgers, pizza
2. **Poor Dental but Good Nutritional Foods/Snacks***
   Milk puddings, milkshakes, chocolate milk or drink, ice cream, ice cream sodas, yogurt (sweetened)
   Raisins and other dried fruit, sherbet, sweetened fruits and fruit juices
3. **Foods/Snacks Nutritionally Poor but Dentally Acceptable**
   French fried potatoes, popcorn, potato chips, pretzels, soft drinks (sugar-free), cheesies & other similar party snacks
4. **Foods/Snacks Nutritionally and Dentally Unacceptable**
   Beverages containing sugar such as tea or coffee with added sugar, and regular soft drinks, honey, jams, jellies, sweet baked goods, chocolate bars, cookies, candies, lozenges, regular gum and breath mints.

*see *Rationale For Food Categories*

RATIONALE FOR FOOD GROUPINGS

The degree to which different foods contribute to nutritional and dental health varies considerably. Before a food can be rated for its contribution to these two facets of health, both the sugar content and the nutrient content must be considered.

1. **Good Dental and Nutritional Foods/Snacks** — *high in nutrients; low in sugar*

These foods are high in nutritional value. Whether they are selected as part of meals and/or as between meal snacks, such foods can contribute significantly to the total daily nutrient needs. Since they are also low in sugar, they will not promote the growth of dental plaque and present minimal dental health concern.

2. **Poor Dental but Good Nutritional Foods/Snacks** — *high in nutrients; high in sugar*

These foods are high in nutritional value but are also high in sugar content. They are less harmful to the teeth if consumed with meals than as between meal snacks. Greatly increased flow of saliva during a main meal will help neutralize the harmful acids that are formed in the mouth from the sugar. Between meals, the flow of saliva is much decreased, hence the natural protection for the teeth is lacking.

3. **Foods/Snacks Nutritionally Poor but Dentally Acceptable** — *low in nutrients; low in sugar*

Although these foods are relatively harmless to the teeth due to low sugar content they contribute little toward fulfilling body nutrient needs. Since they contain few nutrients in relation to the calories provided they should be chosen infrequently.

4. **Foods/Snacks Nutritionally and Dentally Unacceptable** — *low in nutrients; high in sugar*

These foods are high in sugar and are not acceptable as between meal snacks. They are also low in nutrient value and should never be allowed to replace the high nutrient foods in the diet.

APPLICATION OF DENTAL AND NUTRITION EDUCATION POSITION PAPER IN RELATION TO SCHOOLS

Since a school feeding programme can have a significant role in the promotion and maintenance of a child's health as well as the prevention of illness, the food available should provide an educational example for the formation of good food habits. In other words, foods served at school should demonstrate what is taught in the classroom.

With reference to the Dental and Nutrition Education Position Paper, the following recommendations are pertinent to schools:

- that foods which promote good dental and nutritional health (Category 1) be readily available in the schools
- that foods which are dentally unacceptable but high in nutrient value (Category 2) be allowed only at meal times (see Rationale for Category 2)
- that foods which do not promote good dental and nutritional health (Categories 3 & 4) not be available in schools

This would necessitate the banning of all foods high in calories and low in nutrients (eg. soft drinks and candies) in cafeterias, vending machines and canteens. These foods could be replaced with nutritious snacks such as unsweetened juice, nuts, sunflower seeds, sandwiches, fresh fruits, plain milk and muffins, cheese and crackers.

These recommendations apply not only to secondary schools but also to elementary schools where food is served in the classroom (eg. snacks for kindergarten children).

In order to contribute toward the nutrition knowledge of students and to influence positively their food selection it is further recommended that an educational programme be integrated with school food services.

(Recommended by: Ontario Society of Public Health Dentists; Ontario Society of Community Nutritionists; Representatives from Faculty of Dentistry, University of Toronto and Ontario Ministry of Health. *Rev. November, 1975*)

1976 CONVENTION CHAIRPERSONS

Linda Risdon

After graduating from the University of Alberta, Linda was employed by the City of Edmonton Health Department, first on a full-time and then on a part time basis. After a year's foray into full time homemaking, she started working in private practice in a holiday relief capacity and is presently working a regular two days per week. Her past association involvements include several years as chairman of the provincial nominating committee, then constitution work as provincial chairman and CDHA committee member. She served as CDHA delegate from the ADHA in 1974 and 1975 as well as member-at-large on the ADHA Board of Directors. She is currently Liaison Officer to the Alberta Dental Association and the University of Alberta Faculty of Dentistry, and president-elect of the ADHA. Linda is married and has two daughters.

Marilyn Mabey

Marilyn is a 1974 graduate of the University of Alberta and has been an active association member at both the provincial and national levels. She has served as chairman of the ADHA Education and Recruitment Committee and the ADHA Licensing and Registration Committee, Liaison Officer to the Alberta Dental Association and the University of Alberta Faculty of Dentistry, president of the ADHA, and member of the Board of Directors of both the ADHA and the CDHA. Marilyn's work experience includes public health, private practice and dental hygiene education. She is married to Gayle Mabey, also a "tooth type".

ALBERTA DENTAL HYGIENISTS ARE ANXIOUSLY PREPARING FOR SEPTEMBER

September seems a long way off with everyone's thoughts now focused on summer with dreams of warm weather, barbeques, swimming and hiking. Alberta dental hygienists are emerging from a winter of planning for "Collage '76". With spring comes preparation of all the special favours for the luncheons and collection of materials for the registration packets. An informative and stimulating program has been planned with a perfect mix of serious food for thought and food to delight your palate. Time has been set aside for relaxing fun-filled evenings to engage in laughter and one of those nice long conversations with fellow dental hygienists that seems to inject new enthusiasm into your attitude towards our profession. These are some of the things that we have planned so that you will leave "Collage '76" proud to be a dental hygienist and with renewed fervor in your day to day work. We're planning for September . . . are you?

NO SALES TAX!

That's right! Alberta has been able to escape the dollar and dime sales tax. Astonishing, isn't it. Come to Edmonton and be astounded. Edmonton will soon become the fifth largest metropolitan area in Canada with a population of approximately 570,000. At "Collage '76" you can experience temperatures of between 71°F. during the day and 55°F. at night. It is not the rainy season in September but you could experience a fantastic thunder and lightning storm followed by a gorgeous rainbow that is truly breathtaking and seen only on the Canadian prairies. With clear weather you could see the awe inspiring northern lights dance across the sky. In September, clear blue skies and bright sunshine culminate in a gorgeous sunset that is a photographer's delight. Make the convention part of your holiday. Edmonton is serviced by seven airlines. Air travel time from Edmonton to Vancouver is 80 minutes, to Anchorage, Alaska 3 hours, to San Francisco 6 hours, to Las Vegas 3½ hours. It's worth the effort. Plan now to attend "Collage '76".

REWARD OFFERED

Pursuant to the happening known as "Collage '76", rewards will be offered of $50, $25 and $15 for those persons or person found guilty of disseminating information to dental hygienists with intent to upgrade their knowledge and promote further practice of some technique or similar such occurrences that may result from exposure of the aforementioned at the 13th Annual CDHA Convention in Edmonton, Alberta, September 12 to 15, 1976. Apply to Dorothy Phillips, 10609 - 79 Avenue, Edmonton, Alberta T6E 1S4.

TEN STEPS TO FINANCIAL INDEPENDENCE

BARBARA FEHRMANN
GEOFFREY A. HIGGINS

Mr. Higgins and Miss Fehrmann are insurance agents who provide a financial co-ordinating service for professional and business clients in Vancouver, B.C.

We all have different objectives, working and exchanging our time and energy hopefully for satisfaction as well as money. Money is a vehicle of exchange for the things we want and need. One of the biggest problems can be determining what we want. We all have limited resources and are forced to choose between many competing choices. Sometimes by choosing one thing we eliminate something else we would like. Whether we work full or part time, take time for further education or travel, it is necessary to sit down and plan in order to obtain the maximum satisfaction and security from your resources. We can achieve anything we want so long as we take the time to determine our objectives, develop a plan and put our plan into action. To help you on your personal financial journey, we have developed a point system which we call "Ten Steps to Financial Independence."

Step I Where Are You Now?

What are your assets and liabilities?

How do you spend your time and money?

In other words, develop a crystal clear picture of your present position. List your current income and expenditures as follows: Gross Income; Tax and Deductions; Monthly Living; Annual Living; Loan Repayments; Savings; and Surplus.

Step II What Would You Like To Achieve?

Purchase a house?

Save three months' income?

Buy a new car?

Travel for a year?

Be financially independent by age 50?

Whatever your objective, write down the things you want in order of priority. If you are not sure exactly what you want, write down what you think you want. Let your imagination run wild. Re-write your list regularly until the list stabilizes. You will be surprised how it may change in the beginning. As a final check, starting from the last item on your list, ask yourself how you would feel if you didn't achieve your goal. You see unless you really want to achieve something, you will not be prepared to give up the necessary thing today in order to save for it.

Step III Relate Your Income To Your Priorities

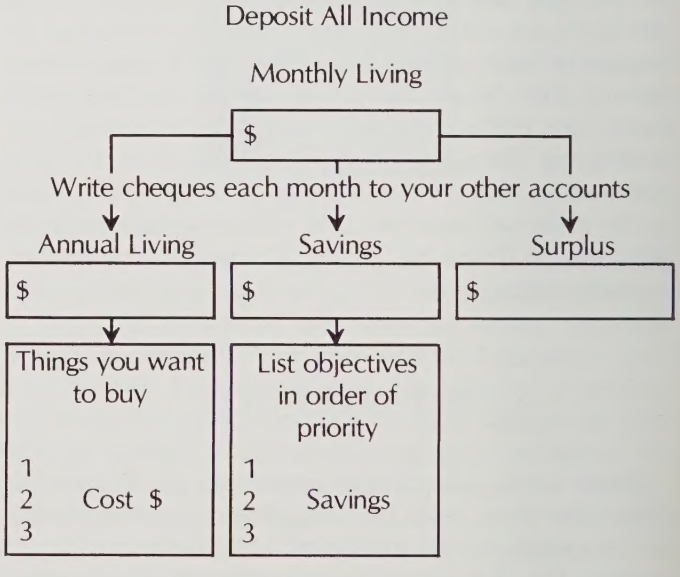
Now you have decided what you want.

Now is the time to relate your current income and expenditures to your goals and priorities.

Re-allocate your income and expenditures.

	Present	Adjusted
Gross Income	$	$
Tax and Deductions	$	$
Monthly Living		$
Annual Living	$	$
Loan Repayments	$	$
Savings	$	$
Surplus	$	$

Set up separate bank accounts in order to keep the different parts of your financial life separate.



Relate all expenditures to list of priorities and objectives in order to avoid habitual and compulsive spending and also to help you keep on the track.

Step IV Utilize Tax Referral And Savings Whenever Possible

If you do not own a home, a Registered Homeowners Savings Plan should be considered. You can save up to $1,000 per year to a maximum of $10,000 and deduct the savings from your income tax. If you earn approximately $12,000 per year, you could save over $300 in tax if you saved the full $1,000. Assume an interest rate of 8%, you will have accumulated $6,335 in five years or $15,646 at the end of ten years. If you use the savings to purchase a house the money can be withdrawn from your R.H.O.S.P. tax free. Even if you do not purchase a home, the funds can be transferred to a registered retirement savings plan and tax would only be paid when you withdrew your money from the RRSP. Even if you take the accumulated savings out in cash and do not buy a house, paying tax can result in a tax saving especially if you were to take a year off to travel.

Registered Retirement Savings Plans: You can save up to 20% of your income to a maximum of $4,000 and again deduct the annual savings from your income tax. We would recommend that you consider putting a minimum of 5% of your income into a RRSP. The earlier you start saving for retirement, the greater your saving.

Assuming you plan to retire at age 55 on 60% of your income, you would have to save the following percentage of your income each year to meet your objective:

Age 25	30	35	40	45
7%	10%	16%	26%	47%

(Assuming an average investment return of 8%)

With the tax deduction, these figures can be reduced considerably. The proceeds are taxed fully in the year you receive them. Currently there are provisions to withdraw savings from registered retirement plans at any time and pay tax. We do not recommend RRSPs be used unless you are prepared to leave the funds for retirement purposes. However, you can earn interest of up to $1,000 per year tax free, allowing you to accumulate approximately $10,000 without paying tax on the interest. It is possible to purchase rental property and depreciate the cost of your building against income. Purchasing a duplex, and living in one half, renting the other one or purchasing a condominium to rent may prove good investments. Check with an accountant for further details.

Step V Provide Security Needs

Your most valuable asset is your ability to earn and should be protected in the event of disability and death if you have any dependents. Disability income should at least provide benefits for five years in the event of sickness and lifetime in the event of an accident. Choose a longer waiting period before benefits are paid in order to keep premium cost down.

Step VI Save A Fixed Percentage Of Your Income

Try to save a minimum of 10% of your income as early as possible and reinvest the savings to take advantage of compound growth:

$1,000 invested from 25 to 65 at 8% interest = $279,781
$2,000 invested from 45 to 65 at 8% interest = $ 98,846

The same amount of saving, but the younger person may have three times the savings at 65 because of compound growth. The first cheque you write should be to yourself. Most people pay everyone else and never think of paying themselves. Compound interest can work against you in the form of debts. If you have a mortgage on a house, check out the repayment cost over 20, 15 or even 10 years. You will be amazed at how little extra you pay.

Step VII Relate Your Objectives To The Financial Environment

The economy is continually changing. Currently we are experiencing inflation and sooner or later it will turn to deflation. In the meantime our economy goes from recession to inflation. Our financial objectives should be aligned to the changing economic conditions. A house is one of the best inflation hedges, but always keep cash on hand for future opportunities. Finding someone to advise you in this area usually proves difficult. A basic rule is never to follow the crowd, people en masse are usually wrong.

Step VIII Develop A Plan Of Action

The key is to put your thoughts into action. Develop a check list with deadlines in order to measure your progress. After deciding what you want to do — DO IT.

Step IX Keep In Balance With Non-Monetary Goals

Too much emphasis can be placed on monetary achievement, as money is a vehicle for the things you want, but your financial plan has to be integrated with your latest lifestyles and personal growth. In other words, it is important to enjoy today and not to become too future or goal oriented.

Step X Review Objectives And Results

Now, in point of fact, we are back to step one as it is an endless growth process. As you grow, your circumstances and objectives will change. Some of your assumptions will not have worked out. The economy and lifestyles will have changed. Your plan should be reviewed and adjusted at least once a year, quarterly is preferable especially at the beginning.

We hope the ten steps can help you achieve the maximum satisfaction from your time and energy. It is just as easy to develop the habits of achievement than settle for second best.

There is a price either way.

We all have to choose.

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Butler Preventive Aids include: floss, floss handles, floss threaders, mouth mirrors, disclosants, brushes and dental health control kits. All are available at special professional rates, and for your recommendation at better drug stores.

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#311P Tween G·U·M 3-Row

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#210P Sulcular G·U·M 2-Row

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DRUGS IN BREAST MILK

Nursing mothers often ask their doctors if medicines they are taking can harm their infants. Data on the pharmacology of drugs in breast milk are surprisingly incomplete, but physicians should be aware of some general principles and a few specific precautions.

General Considerations

Almost any drug present in the mother's blood will also be detectable in her milk. The concentration in milk depends on such factors as the concentration in maternal blood, the lipid solubility of the drug, and its degree of ionization. The amounts of most drugs in breast milk are very small.

The infant's immature renal and hepatic function can delay excretion or inactivation of drugs, so that continuous input from mother's milk could lead to clinically important concentrations of some drugs in the infant's blood. In addition, since the intestine of the newborn infant permits absorption of undigested macromolecules (Walker, W.A. and Hong, J.J. *Pediatr.* 83, 517 [October] [1973]), the breast-fed infant may become sensitized to trace amounts of drugs in milk. If the nursing mother has decreased renal function, drugs that would otherwise be present in small amounts may appear in her milk in much higher concentrations.

Alcohol

Medical Letter consultants believe that nursing does not contraindicate even a moderate intake of alcohol. The concentration of alcohol in the mother's milk is generally about equal to the concentration in her blood. Even the combination of a high blood level with a large feeding should produce no symptoms in the infant, except possibly if the mother is a severe chronic alcoholic who can tolerate very high blood concentrations.

Aspirin

Aspirin appears in breast milk in moderate amounts. It can produce a bleeding tendency either by interfering with the function of the infant's platelets or by decreasing the amount of prothrombin in the blood. The risk is minimal, however, if the mother takes the aspirin just after nursing and if the infant has an adequate store of vitamin K.

Antithyroid Drugs

A mother receiving therapeutic doses of radioactive iodine should not nurse; the amount of isotope that appears in breast milk is sufficient to destroy the thyroid gland of the infant. Amounts of radioactive iodine used for such diagnostic tests as radioactive iodine uptake are much smaller, but there are few data on the safety of such amounts of radioactive isotopes for young infants. Iodides pass into the breast milk in small quantities but could possibly cause either hypothyroidism or goiter in the infant (*The Medical Letter* 12:61, 1970). Propylthiouracil reaches a higher concentration in milk than in the mother's blood; it could inhibit the activity of the infant's thyroid gland.

Antimicrobial Drugs

Penicillin in breast milk may increase the risk of sensitivity reactions in later life. Chloramphenicol appears in breast milk in amounts that are probably too small to cause the 'gray baby syndrome' but might harm the infant's bone marrow. Tetracyclines in breast milk could theoretically cause mottling of developing teeth in the nursing infant, but these drugs form complexes with calcium in milk and therefore are probably not absorbed by the infant; it is not known whether hypocalcemia could be caused in this way. Hemolytic anemia may be associated with the presence of nalidixic acid or sulfonamides in breast milk (Catz. C.S. and Giacoia. G.P. *Pediatr. Clin. North Am.* 19:151, 1972). Moreover, any antimicrobial agent in breast milk is likely to alter the bacterial content of the infant's intestinal tract, and normal flora may be important to the early development of the immune system (Walker, W.A. and Hong, R. cited above).

Corticosteroids

These drugs appear in breast milk and could suppress growth, interfere with endogenous corticosteroid production, or cause other unwanted effects. Mothers taking pharmacologic doses of corticosteroids should be advised not to nurse.

Methadone and Other Narcotics

Although opioid drugs are detectable in breast milk and theoretically could lead to addiction in the newborn infant, the amounts in milk are so small that this seems unlikely. The average intake of methadone by a nursing infant whose mother is maintained on the drug was estimated to be only 57 mg per day, an

insignificant dose (Kreek, M.J. in Stimmel, B. ed., Heroin Dependency; Medical, Economic and Social Aspects, New York: Intercontinental Medical Book Corp., in press, 1974). Peak levels of methadone can be avoided by giving the mother her daily dose after the infant's evening feeding and giving a supplementary bottle for the next feeding only.

Oral Contraceptives

No harm to nursing infants has been documented from oral contraceptives but, as with most other drugs, the long-term effects on infants of several months' intake of oral contraceptives in breast milk have not been studied.

Sedatives and Anticonvulsants

In animals, phenobarbital is present in breast milk in high enough concentrations to increase the activity of drug-metabolizing enzymes in the liver (Fouts, J.R. and Hart, L.G. *Ann. N.Y. Acad. Sci.* 123:245, 1965). In the infant, this increased activity may affect the metabolism of other drugs the mother is taking, or of the infant's endogenous corticosteroids, or have other undesirable effects. Diphenylhydantoin can also induce liver enzymes. There is one report of lethargy and weight loss in a nursing infant whose mother was taking diazepam (Patrick, M.J. *et al. Lancet* 1:542, 1972).

Other Drugs

Caffeine reaches detectable levels in the blood of nursing infants, but the concentrations are probably too low to have any pharmacologic effect. Anticancer drugs can cause bone-marrow depression in nursing infants and should be considered a contraindication to breast feeding. Anticoagulants in breast milk have been reported to cause bleeding in the infant, sometimes severe (Knowles, J.A. *Drug Ther.* 3:57, 1973). Atropine may appear in breast milk in concentrations high enough to cause anticholinergic effects in infants, who are very sensitive to atropine, probably because of immaturity of the motor endplate. Ergotism has been reported in breast-fed infants whose mothers were treated with ergot alkaloids. Thrombocytopenia can occur in the nursing infant when the mother is taking chlorothiazide or quinine. Reserpine may produce lethargy, diarrhea, and enough nasal stuffiness to interfere with the infant's respiration.

Conclusion

During lactation, drugs should be avoided as much as possible since there is little information on harmful effects on the infant, especially over a period of several months. A physician who prescribes a drug for a nursing mother should consider whether the benefit to the patient outweighs a possible danger to the infant.

(Reproduced from *The Medical Letter* 16:25, 1974 with permission of The Medical Letter, Inc., 56 Harrison St., New Rochelle, N.Y. 10801.)

FIT-KIT

The Fit-Kit is a comprehensive fitness testing and information package designed by the Fitness and Amateur Sport Branch of Health and Welfare Canada to enable Canadians to estimate how fit they actually are and assist them in the selection of physical activities which are appropriate to age, occupation, lifestyle preferences and personal capabilities. The package includes:

1. **Canadian Home Fitness Test**
   A self-administered test of heart and lung fitness, adjusted for different age groups.
2. **Rx for Physical Activity**
   A weekly guide to physical activity. Describes the basic requirements for physical activity in terms of weight control, flexibility, muscular endurance, heart and lung fitness, and physical recreation.
3. **Fit-Tips**
   An illustrated series of rhythmic exercises intended to improve muscular strength, endurance and flexibility. The series has been designed to provide exercises for all major muscle groups in the body.
4. **Fit-Kit Progress Chart**
   Enables an individual to record participation and progress in the chosen activity program. Includes a special section on Resting Heart Rate.
5. **Walk-Run Distance Calculator**
   A special slide rule which helps to calculate how far to walk or run in 15 minutes to maintain or improve fitness level. It uses the result of the Canadian Home Fitness Test and information about height, weight, age and sex to determine personal prescription.
6. **Advanced Version of the Canadian Home Fitness Test**
   An advanced test for Canadians who attain the Recommended Personal Fitness Level.
7. **Crests**
   Five crests for family and friends who try the Canadian Home Fitness Test.
8. **Health and Fitness Booklet**
   The popular manual *Health and Fitness* in a special edition for FIT-KIT users. Written by Dr. Per-Olof Astrand of Sweden, the manual deals with many issues related to fitness and health.

The **Fit-Kit** is available for $4.95 through government bookstores in Halifax, Montreal, Ottawa, Toronto, Winnipeg and Vancouver, or by mail from Fit-Kit, Ottawa, K1A 0S9. Make cheque or money order payable to the Receiver General for Canada.

Operation Lifestyle

Mission Vraie-Vie

LIFESTYLE is the unique way in which people live their own lives.

LIFESTYLE is neither sickness nor health. It is the food we eat, the weight problem, the malnutrition, the balanced diet. It's the care or neglect of our bodies.

LIFESTYLE is the cars we drive and the seatbelts we don't wear. It's speeding or taking it easy. It's the alcohol we drink . . . it's the deadly "one more for the road". It's moderation and alcoholism. It's knowing when to get treatment and getting it. It's protecting our loved ones or letting them down.

LIFESTYLE is drug addiction in the cigarettes we smoke, the "uppers", the "downers", the hash . . . it's abuse of over-the-counter prescription and illegal drugs or intelligent use of drugs. It's taking precautions against child poisoning or tragic carelessness.

LIFESTYLE is staying in shape or getting fit by regular physical activity, or it's running to seed. It's taking part in summer and winter sports or simply being an observer. It's pursuing a hobby or sitting for hours watching television. It's getting out and doing something enjoyable or being bored.

LIFESTYLE is how we handle stress, tension and loneliness . . . it's knowing how to relax. It's how we feel about ourselves, our lives, jobs, families and friends. It's being able to change some things in our life and living with those we can't. It's contentment or despair.

LIFESTYLE is using safeguards or taking needless risks with our health, on the job, at home, at school and when playing sports. It's obeying safety rules or ignoring them. It's taking responsible advantage of medical and health services. It's complying with the doctor's instructions or treating ourselves.

LIFESTYLE is learning how to deal with emergencies or being helpless. It's learning to swim, practising water safety and being able to give first aid. It's common sense or foolhardiness.

LIFESTYLE is parents' influence on their children, a couple's relationship to each other and their family. It's involvement in the community or dropping out.

Your lifestyle, at this moment, whether good or bad, is distinctly your own. It will change according to your attitude and ability to change. Your lifestyle reflects with reasonable accuracy what health may be in the future — unless changes are made for better or worse.

The Lifestyle symbol has been designed to identify various components of Health and Welfare Canada's Lifestyle Campaign as well as promotional and educational items produced in support of the health Lifestyle concept. The ANKH is the basis of the Lifestyle symbol. Having its foundations in ancient Egypt, it was in fact in existence some 5000 years ago and is properly referred to as the "Key of Life". For distinctiveness, a stylized version of this universally recognized symbol has been superimposed on the human head in profile. While the Lifestyle symbol is the property of Health and Welfare Canada, its use will be offered free of charge to business, industry, governments and organizations having a vested interest in in the promotion of a positive health lifestyle.

LEGISLATION

HEALTH PROFESSIONAL LICENSURE: THE NEW DILEMMA

LORNE E. ROZOVSKY, B.A., LL.B.

Mr. Rozovsky is departmental solicitor, Nova Scotia Health Services & Insurance Commission, and Member of the Faculty of Medicine, Dalhousie University.

We are on the threshold of the hottest health topic to date, health professional licensure. With a growing number of health occupations and specialized divisions within occupations, controversy has been steadily brewing. There is overlapping among the occupational groups and a keen sense of competition for greater influence and prestige. The older established professions sense this competition and often feel threatened and concerned about standards. This has been recognized for a number of years by the World Health Organization which under the direction of the head of its health legislation section, Dr. Jean de Mooerloose, published in Geneva a survey of existing legislation governing medical, dental and pharmaceutical auxiliaries in 1968.

Much interest has been spurred by public complaints about the health care system and the personnel who operate it. The major complaint was outlined by Pittsburgh professor and lawyer Nathan Hershey and Walter S. Wheeler.(1) It is that "our present system of licensure does not have much influence upon the quality of care delivered and it has not been responsive to the need for change in the organization and delivery of health services." They describe how there appear to be barriers to effective utilization of health manpower which raise the cost of health care without raising the standards. Furthermore, the segmentation of professional practice is in conflict with the pressure for organized, integrated health care.

Two Competing Interests

At the root of the problem is that in the affairs of any occupation, two major interests have grown up and have become confused. The first is the private interest of the members of the occupation. Each member has an economic, social and political interest in his occupation. As a member of that occupation, he wants a larger income, a certain position in society and as in other occupations, he wants certain government action or non-action which will affect his occupation.

In order to further these interests, members of similar occupations have grouped together into societies and associations. To achieve their aims these bodies have often found it necessary to place certain controls on their members. Such societies have often achieved such political influence as to persuade legislatures to enable them to enforce such control over their members by a special act and often to prohibit the practice of the occupation or the advertising of its practice.

The second interest is that of the public. It concerns itself with the standards by which members of an occupation give their service. This is based on the theory that any person who holds himself out as

being of a particular occupation must not deceive the public into believing that he does not have the qualifications normally ascribed to that occupation. By announcing his occupation he is saying he is able to perform the tasks according to the usual standards of that occupation.

This interest has long been recognized under the law of negligence. Anyone who performs a task for a person to whom he has agreed to perform it has a duty to that person to perform it as would an average, reasonable and prudent member of that occupation in similar circumstances. Failure to live up to these standards resulting in injury would place liability on the wrongdoer in a subsequent lawsuit. The public interest in occupational standards is not particularly well served by this type of control since it only comes into force after the fact and only if someone is injured. It has little preventive force except through the threat of a lawsuit.

Quality Control

The public interest attempts consequently to be served by controls on *who* is allowed to practise an occupation. By controlling the quality of persons, the natural outcome will usually be control over standards. While this does not always work, at least it prevents persons not trained to abide by the appropriate standards from entering the occupation. The difficulty has always been to ensure that the person continues to abide by standards which are continuously changing.

Generally speaking Canadian legislatures have not been very consistent in their approach to occupations. The role of professional bodies in respect to public and professional interests has not generally been clearly established. Only Quebec and Ontario have tried to develop an overall consistent approach. Quebec has done this on an extremely broad basis governing many occupations outside the health field while Ontario has taken a very narrow approach. In the case of some health occupations the two interests have sometimes been recognized and separated.

Conflict Of Interest

The reason for the separation is to avoid a potential conflict of interest. While many professional societies do much which is clearly in the best interest of the public good, there is always the possibility of a conflict between what is good for the public and what is good for the members of the particular occupation.

An example of this separation is that of the Royal College of Physicians and Surgeons of Ontario and the Ontario Medical Association. The college is the licensing body whose primary purpose is to protect the public interest, even though its work is also in the private interest of individual positions. The association is oriented toward promotion of the interests of its members, though it may often promote the public interest as well. In fact, it is probably in the public interest to have vigorous professional societies promoting their private views and free of government involvement.

At the other extreme, there is the Registered Nurses' Association of Nova Scotia which acts as a private society promoting the interests of its members both directly and indirectly and as a public licensing body. The potential conflict of interest which is inherent in the legislation establishing this body is obvious. It is interesting to note that though it exercises a public function, the governing body of the association does not include public representation.

Unrecognized Occupations

In addition, there are numerous occupations not officially recognized in legislation at all. The occupational associations may or may not be incorporated at the provincial or federal level. However, incorporation merely gives the association a legal capacity to do such acts as incur debts, sue and be sued. It has no control over persons who are not members and has no public function. Publicly there are no agencies controlling standards of persons entering the occupation. They are controlled by those who employ them which in some cases may sufficiently protect the public interest.

In the last few years a number of new occupations have arisen in the health field. There is often great confusion as to how they relate to existing occupations. There has also been a growing degree of public concern over complaints by or about particular professions.

The Health Disciplines Act

In 1974 Ontario passed the Health Disciplines Act.(2) This legislation brings together into one act legislation for the governing of dentistry, medicine, nursing, optometry and pharmacy. Each profession is governed by a college of the members of that profession. The act concerns the public interest only and so each college is concerned with the licensing and control of its particular profession. It does not deal with private functions which are carried out by the private professional societies. To this extent, the legislation is a step in the right direction.

Unfortunately, the Ontario legislation is extremely limited in what it attempts to achieve. It deals with only five professions although there are plans to expand the legislation into the paramedical and technical occupations as well. However, such expansion rests exclusively with the political process and requires a political decision of the government and the Ontario provincial parliament to amend the legislation. No mechanism was established for the orderly development of new occupations or the inclusion of old ones. The most difficult decision to be made is whether any occupations will be grouped with others for licensing and control purposes, or whether one occupation will be placed in a position of control or significant influence over another. At the present time the legislation answers such a query in the negative.

Apart from combining the governing legislation of five occupations into an orderly package with a certain uniformity of structure for each, the next basic purpose of the legislation is extremely narrow. It establishes a mechanism through a health disciplines board for all occupations under the act, whereby a member of the occupation or of the public who is dissatisfied with a decision of a particular committee of a governing college may have the right to appeal to a higher and impartial body.

The Role Of Politics

There is a further purpose to Ontario's legislation to ensure that the governing bodies are carrying out their responsibilities. This duty rests with the minister of health but it is questionable whether this function can best be carried out at the political level or solely at the political level. While political considerations may motivate a minister to be particularly conscientious in furthering the public interest, the reverse may also be true.

The outstanding feature of the Ontario legislation is what it does not do. The major problem affecting both the private and professional interests is that of the changing relationships among the various health occupations. The changing roles, the expanded roles and the development of new occupations is not dealt with by the Health Disciplines Act. The mere bringing together of several occupations under one uniform piece of legislation may promote discussion among them, but neither the Ontario health disciplines board nor the structure of any of the occupations provides for a system which will encourage a solution to these problems. Hopefully, future Ontario legislation will devise such a system.

The Quebec Code

Quebec's Professional Code(3) is the most sweeping and revolutionary attempt to enforce the public interest in control of occupations in Canada. It encompasses thirty-eight different occupations, twenty of which are directly related to the health field. In all professions under the code the distinction between the private and public interest is clearly established in the words of the president of the Quebec profession board, Rene Dussault describing the purpose of the professional governing boards, "the roles of professional corporations, as administrative bodies of professions, are more clearly established now. There is no ambiguity left about the nature of their primary function, to protect the public."

The Quebec legislation establishes professional corporations which are similar to the colleges under the Health Disciplines Act of Ontario in that they are the licensing and governing bodies for each profession. It also clearly establishes the principle that the thirty-eight professions are those in which the public has an interest. That interest is expressed by placing those professions under the code with its system of controls and standards. It also establishes for the first time in Canada criteria by which an occupation will be considered of such importance for the public to take an interest and allow it to be brought into the code. Thus it devises a system for the growth and development of professions. It furthermore divides professions into those which have exclusive rights to practise their profession and those which have the exclusive use to professional titles. Many of these provisions appear in legislation of other provinces but not in an organized or co-ordinated way.

The Profession Board And Interprofessional Council

The most interesting aspect of the Quebec legislation is the establishment of two new organizations. The first is the *Quebec Profession Board* which acts as an overseer of all professions. In this way it assumes the role of the minister in Ontario except over many more professions and in much greater detail. This is the government watchdog which is intended to protect the public interest. It ensures that the corporations govern their professions in the public interest and it has power to step in and take action itself in certain situations. It also may suggest the creation of new professional corporations and the amalgamation or dissolution of existing ones. These new corporations are to be established by the Lieutenant Governor in Council after consultation with the board and the Quebec Interprofessional Council.

In addition, the *Quebec Interprofessional Council* is established. This body is supported financially by all professional corporations and is independent from government. However, it has an advisory role only and studies problems encountered by the professions and advises the Quebec Profession Board and the Lieutenant Governor in Council, that is, the Cabinet. It is the board that has the power and is the mechanism by which the professions grow, change and relate to one another. Needless to say, the Professional Code has attracted a great deal of criticism. It means the end of the self-governing of professions in order to serve the public interest. It does not, of course, mean the end of private organizations promoting private interests.

The basic question is whether all Canadian governments and health professionals are governing themselves in the public interest? Are the professions and occupations relating to one another and developing in such a manner so as to best promote the public interest? If not, is legislation, regulation and government involvement on the scale of the Quebec Professional Code the answer?

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FLUORIDE SUPPLEMENTS FOR PROPHYLAXIS OF CARIES

GORDON NIKIFORUK, D.D.S.

Dr. Nikiforuk is the Dean of the Faculty of Dentistry, University of Toronto, and the following interview was prepared by Diane Charter, Special Features Editor for the Journal of the Canadian Dental Association.

Dr. Nikiforuk, as you well know, there is increasing concern throughout this country over the skyrocketing cost of health care. Since your own specialty of dentistry is a vital part of our health care delivery system, this problem must be of some concern to you and other members of your profession.

Of course it is! But we have to realize that in order to control the high cost of health care we must put far greater emphasis on developing more effective prevention programs and, at the same time, strive for more efficient methods of managing the various health problems. There is ample evidence that health programs are most costly when health personnel lack a clear understanding of a disease mechanism and are bogged down by inefficiencies in managing an illness. For example, smallpox or typhoid fever, if managed today by the best methods available three decades ago, would result in a burdening cost in terms of hospitlization, nursing care, laboratory examinations and, possibly, surgical intervention. Similarly, poliomyelitis, prior to the emergence of research that led to the formulation of a preventive vaccine, and tuberculosis, prior to the formulation of new drug therapy, are examples of major health problems whose management has been greatly improved and the cost drastically reduced.

Does this same theory hold true in the field of dentistry?

It certainly does. It is obvious that treatment of dental caries is very costly, due largely to inefficient technological management of the disease. However, prevention of dental caries by the use of fluorides in communal water supplies is an excellent example of an effective management of a public health problem through prevention. The cost of fluoridating water supplies is 11 cents per capita while the cost of a compound filling is in the area of $21.00. Yet, despite the overwhelming evidence that the most efficient and least expensive part of our health care system relates to prevention, actual treatment programs continue to receive the major part of economic support from government funding.

You're saying then that Canadians should view fluoridation of water supplies as a highly significant preventive program in the field of health care?

I am. The most effective and least expensive method of caries prophylaxis for the general population is an adjustment of the fluoride concentration in community water supplies to the optimum — 1.2ppm for much of Canada, 1.4ppm for arctic and subarctic zones.(1) Significant progress has been made in making the benefits of community water fluoridation available to large segments of the population. In Canada, 45 per cent of the population served by 578 waterworks systems is now benefitting from the ingestion of controlled or naturally fluoridated water.(2) Nevertheless, many communities have been tardy in the implementation of fluoridation programs. In addition, one-fifth of the population in this country does not have access to community water supplies.

Does the non-access to fluoridated water supplies affect any one segment of the population more drastically than others?

Yes. It is especially important that handicapped children, such as those with haemophilia, cerebral palsy and mental retardation receive the benefits of fluoride intake as early in life as possible because dental treatment of these individuals is difficult and costly. The use of fluoride supplements is a highly

effective preventive measure in managing the dental caries problem in handicapped, as well as normal populations. However, a practitioner contemplating the use of fluoride supplements on a child should first procure the following information:

- the fluoride content of the water currently consumed by the patient — this can be obtained by sending a sample of drinking water to the local medical officer of health;
- the patient's date of birth;
- the determination of the appropriate dosage of fluoride on the basis of age and the fluoride content of the water;
- the choice of the specific fluoride supplement — tablets, solutions, etc.

Are there any reliable statistics on the use of supplemental fluorides in the prevention of dental caries?

To date, the most precise record of caries prevention has been obtained from studies involving daily consumption of water containing one ppm of fluoride ion. This experience can be used as the baseline for estimating a suitable dosage of supplemental fluoride for individuals living in a non-fluoridated, non-communal water supply area. Studies on tap water consumption indicate that there is a wide variation in total fluid and tap water intake. Tap water consumption is further affected by a wide variety of modern-day techniques employed in the preparation of food, such as dilution and reconstitution of various food items. The individual variation in consumption within any given age group amounts to as much as a seven-fold difference between the lowest and highest rates of total water consumption.(3) Estimates obtained by McClure(4) of tap water intake of children are used to compute the daily recommended dosage of supplemental fluorides as noted in Table 1. These estimates are based on a total fluid requirement of one milliliter per calorie in the diet, of which 25 to 30 per cent is assumed to be drinking water. These recommendations parallel the measured total tap water intake of younger children reasonably well, but are higher than estimates that would be derived from the total tap water consumption data for older children.

Estimated daily intake of water and fluoride when water contains 1 ppm of fluoride — Table 1

Age (years)	Weight in kg (range)	Litres of water	mg fluorine (range)
1 - 3	8 - 16	.390 - .560	0.39 - 0.56
4 - 6	13 - 24	.520 - .740	0.52 - 0.74
7 - 9	16 - 35	.650 - .930	0.65 - 0.93
10 - 12	25 - 54	.810 - 1.160	0.81 - 1.16

Adapted from McClure, F.J. Amer J Dis Child. 66:362, 1943, and Galagan, D.J. J Amer Dent Ass 47:159, 1953.

How then can the practitioner be assured of prescribing the correct daily dosage of fluoride supplements for children of various age groups?

Ideally, finely graduated tables could be developed for recommended daily dosages of fluoride supplements according to age and natural fluoride ion content in existing water. However, for practical purposes, the problem resolves itself into simple parameters. For purposes of fluoride dosage, children are divided into two age groups only: those two years or younger should receive 0.5 mg of fluoride per day, and those three years or over should receive 1.0 mg of fluoride ion per day. As for the fluoride levels found naturally in water, it is practical to divide this parameter into three categories: levels of fluoride below 0.25 are not metabolically significant and should be ignored; fluoride levels between 0.25 and 0.45 ppm and those between 0.5 and 0.75 are metabolically significant and are to be considered in determining dosages. A useful practical guide for fluoride dosages according to age and the natural fluoride content of water supplies is noted in Table 2. An actual example might help clarify the method. Assume a three-year-old child comes into the office and the dentist determines that this particular patient resides in an area where the natural fluoride content is less than 0.25 ppm. As noted in Table 2, this child should receive 1.0 mg of fluoride ion per day. The suggested prescriptions for providing the appropriate levels of fluoride for patients are noted in Tables 3A (tablet form) and 3B (fluoride solution).

Recommended daily dosages of fluoride supplements* Table 2

Age of Child (years)	Natural fluoride ion content in existing water, ppm: 0 - 0.25 Solution (1 mg F^-/ml) Tablet (0.5 mg F^-)	0.25 - 0.45 Solution (1 mg F^-/ml) Tablet (0.5 mg F^-)	0.50 - 0.75 Solution (1.0 mg F^-/ml) Tablet (0.5 mg F^-)
0 - 2.0	0.50 ml 1 tab	0.25 ml 0.5 tab	0 0
3 - 12	1.0 ml 2 tab	0.75 ml 1.5 tab	0.5 ml 1 tab

*Proprietary preparations of sodium fluoride, in solution or in tablet form, which permit simple and accurate modulation of dosage according to age and natural fluoride content of water may be confidently used.
Adapted from Nikiforuk, G. and Fraser, D. Amer J. Dis Child 107:111, 1964.

Are there any known hazards involved in the use of fluoride supplements?

There are no known hazards when fluoride supplements are used by reliable families in the manner prescribed. To safeguard against accidental misuse of the fluoride formulations by small children, it is recommended that no more than 60 mg of fluoride ion be dispensed at one time. This amount is sufficient for two months use at the rate of 1 mg per day

Suggested prescriptions for fluoride supplements Table 3

℞ **A. Fluoride tablets***

Rx Sodium fluoride 1.1 mg
Mitte 100 tablets

Label: Keep out of each of children. Do not exceed recommended dosage.

Method A-I — To prepare fluoridated water (1 ppm F^-)

Directions: 2 tablets in 1 quart of water. To be used for drinking purposes, preparation of juices, formulas, and cooking.

Method A-II — Administration of tablets according to age in areas where natural content is less than 0.25 ppm.**

Age	Number of tablets. Each tablet = 0.5 mgs F
0 - 2 yrs.	1 tablet once a day, dissolved in water or juice.
3 - 12 yrs.	2 tablets, once a day, dissolved in water or juice.

*Proprietary preparation of sodium or potassium fluoride, in solution or tablet form, which permit simple and accurate dosage modulation according to age and natural fluoride content of water, may be confidently used.

℞ **B. Stock solution of fluoride*** (1 ml = 1 mg F^-)

Rx Sodium fluoride 0.22 grams
Water, to 100 ml
in a bottle with graduated dropper

Label: Keep out of reach of children. Do not exceed recommended dosage.

Method B-I — Preparation of fluoridated water (1 ppm F^-)

Directions: Add 1.0 ml of *stock* solution (1 mg F^-) to one quart of water, to be used for drinking purposes, preparation of juices, formulas, and cooking.

Method B-II — Administration of fluoride supplement, according to age, in areas where natural content of fluoride is less than 0.25 ppm, and is considered to be insignificant from a metabolic standpoint.**

Age	Volume of Stock Solution
0 - 2 yrs.	0.5 ml once a day, in a glass of water or juice.
3 - 12 yrs.	1.0 ml once a day, in a glass of water or juice.

**For areas where drinking water contains more than 0.25 ppm, the above dosages should be modified according to the schedule shown in Table 2.

and is well below a lethal dose, which would be 350-700 mg of fluoride ion for a 10 kg child(5). The supply of fluoride tablets or solutions should, of course, be kept out of the reach of children.

At what stage in a child's life do fluoride supplements provide maximum benefit?

For optimal benefit to the individual tooth, the ingestion of fluoride must begin during the pre-eruptive maturation of the surface of the enamel.(6) To illustrate, let's consider a specific tooth — the first permanent molar. A child may commence ingestion of fluoridated water as late as three or four years of age, at which time the crown of the first permanent molar is well formed, and still receive optimal benefits from fluorides. This phenomenon is explained on the basis of fluoride deposition on the surface enamel, prior to eruption, in sufficient concentrations to reduce dental caries.

Would it be advisable then for an expectant mother to take fluoride? Would this benefit her new-born child in any significant way?

Since most of the enamel surface of the primary teeth is formed after birth, administration of fluoride during pregnancy should not be necessary in order to obtain a significant caries prophylactic effect on the primary teeth. This hypothesis is confirmed by Carlos et al(7) who were unable to show any additional benefit from fluoridated water consumed by the mother during pregnancy as compared to a group commencing fluoride intake at birth. It should also be stated that there is no proved contraindication to fluoride administration during pregnancy: it is simply not necessary if the theoretical basis for fluoride as explained earlier is correct. Fluoride administration should begin soon after birth and continue until the second permanent molars have erupted at the age of 12 to 14 years. The third permanent molars will not benefit by this program but, since they develop much later in life and are often removed, a reasonable age to stop administration of supplemental fluoride is after the eruption of the second permanent molars.

There are a number of vitamin-fluoride combinations on the market today. Would you recommmend any of these?

Although some of the commercially available vitamin-fluoride combinations may satisfactorily answer the requirements in individual cases, we consider that these products have a number of important drawbacks. The fixed formulations of the multiple preparations do not permit control over the dosage of the individual constituents. Thus, it is not feasible to adjust the supplemental fluoride intake for age of the patient nor for concentration of fluoride already present in the drinking water.(8) Similarly, it is not readily possible to modulate the amount of supplemental vitamin D in order to compensate for the variable and frequently excessive intakes obtained from commercially enriched foods.(9) Since a considerable time must elapse before the deleterious effects of excessive or insufficient intake of fluorides or vitamin D will become manifest, misuse of the combined medication would not be readily apparent. In view of this, we are hesitant at the present time to recommend the use of vitamin-fluoride preparations until long range studies establish their efficacy in clinical practice.

It would seem that the administration of fluoride supplements is a somewhat exacting procedure.

It is. And it must be emphasized that the success and safety of any system of home fluoridation requires some 12 years of exacting, intelligent co-operation. Obviously, these techniques are less desirable as a general public health measure than is communal water fluoridation. Fluoride supplements should only be prescribed after careful consideration of the indi-

NATIONWIDE

DENTAL HEALTH PROMOTION

As mentioned in an earlier column the Department of National Health and Welfare of Canada will be publishing a teacher's guide on dental health shortly. However, there are at present two excellent American manuals prepared by and for the dental hygienist as well as the classroom teacher. *Teeth for Life* was written by Ruth S. Bugbee, R.D.H. and Patricia Anne Poore, B.A., R.D.H. and illustrated by Mary Martha Stevens, B.S., R.D.H. *Construction and Utilization of Visual Aids in Dental Health Education* was written by Florean Dearth, D.H., M.A. and illustrated by Valerie Almquist. *Teeth for Life* is a dental health teaching manual for the classroom teacher. Although it was prepared for use in the United States, it can easily be supplemented by Canadian references. The manual lists the behavioral objectives for six units from grade one to six. Each colour coded unit is broken down into basic concepts, suggested activities, supplies needed and references/or teachers' notes. The generous line illustrations are simple and easy to reproduce. This 112 page manual published in 1974 is available for $6.50 (U.S.) from the Book Department, Charles B. Slack, Inc. 6400 Grove Road, Thorofare, New Jersey 08086, U.S.A.

Construction and Utilization of Visual Aids in Dental Health Education was compiled specifically for dental hygienists who do not have a strong background in audio-visual aids construction. It will assist the dental hygienist or teacher in deciding what is appropriate to teach and how to construct and use simple visual aids. Chapter One gives the physical growth and development of children, essential characteristics, and implications for health education. Chapter Two is a "how" section on making visuals; Chapter Four contains visuals which can be reproduced for seat work, hand outs, or made into overhead transparencies. The fifth and final chapter which gives sources of free or inexpensive dental health materials in the United States requires some supplementation for Canadian readers. This 132 page guide published in 1974 is also available from Charles B. Slack, Inc. at $7.95 (U.S.). Both publications are highly recommended for public health dental hygienists and classroom teachers along with Canadian references and sources of information.

Sharon B. French
Ottawa, Ontario

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vidual circumstances of each case. But, as you see, this method of prevention of dental caries has a distinct and significant place in Canada and should be encouraged.

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THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

FALL 1976 AUTOMNE **VOLUME 10, No. 3**

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L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée a tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient ete adressér aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: $8 par année au Canada et $10 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

OUR FRONT COVER:
Design by Steve Hitzinger; photograph by Leyda Campbell.

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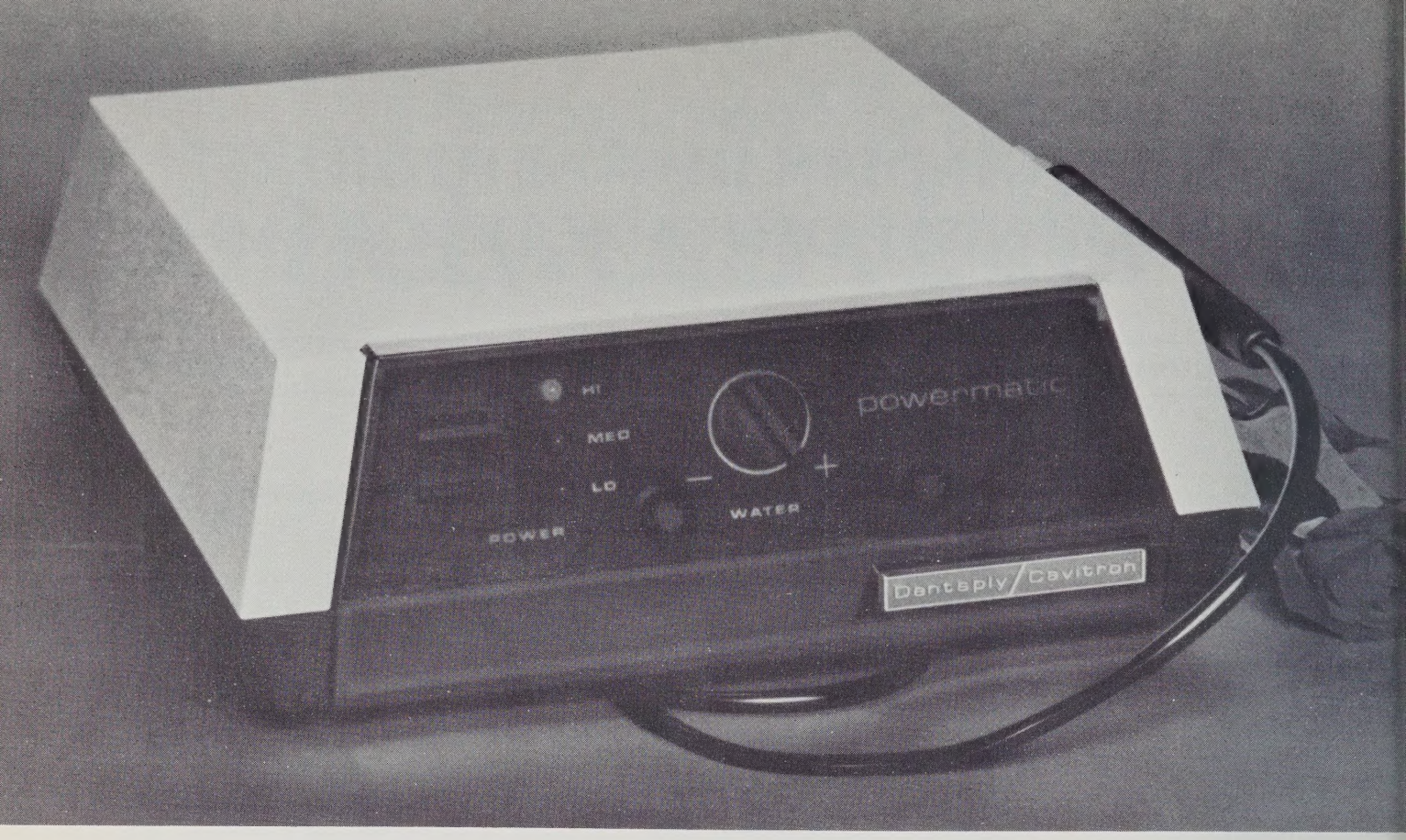

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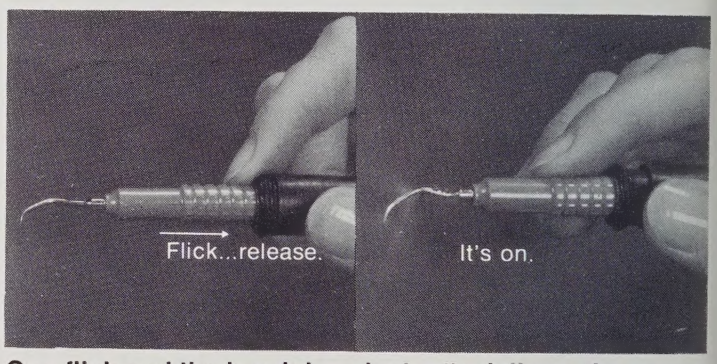

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EDITORIAL

CFDE — A HELPING HAND

The students of Ancient Greece may have been able to learn from Aristotle while following him around during the day listening to peripatetic lectures; or grouped in the shade of a classic Greek porch, they may have learned the way of equanimity from the Stoic philosophers. In medieval times, Chaucer's scholar was able to get his lodging and food by scrivening for the town's folk and still do his learning and teaching "gladly". For the modern student, however, advanced learning comes with a large price tag attached.

Fortunately, today more and more agencies and organizations are becoming interested in providing ways and means of enabling individuals of ability and promise to complete their studies. Such an agency is the Canadian Fund for Dental Education. Since its establishment in 1962, the CFDE has a commendable history of encouraging and financially supporting all aspects of dental education and research in Canada. In recent years, the CFDE trustees have also taken an active interest in the dental auxiliary professions as well.

Dental hygiene's liaison with CFDE was initiated in 1969 when the Canadian Dental Hygienists' Association established a $3,500 trust fund in their name, the income of which was to be used in perpetuity for the sole benefit of dental hygienists. Shortly thereafter, it was mutually decided that scholarships for dental hygiene students should be offered in each of the nation's schools. Subsequently, twenty-seven $200 scholarships were awarded to outstanding first year students: outstanding in the sense of academic excellence and participation in organized undergraduate activities. In 1974, with the full approval of the CDHA Executive, it was decided to abandon the undergraduate scholarship program, at least temporarily, in order to concentrate on teacher training fellowships.

The CFDE trustees have always been convinced that highly qualified teachers are the heart of any educational program and for many years have offered such fellowships to assist dentists in pursuing teaching careers. Over the years, the Fund became increasingly aware of the inevitable demand for highly qualified dental hygiene educators and since 1969, $23,000 has been invested in the future of the dental hygiene profession with seventeen teacher training fellowships being awarded to thirteen hygienists. With the increasing costs of education, there is no doubt that these awards were appreciated and of significant advantage to these individuals. All fellowship recipients must certify that they intend to teach on a full-time or half-time basis at a Canadian institution conducting a program of undergraduate professional education in dentistry or dental hygiene. Minimum responsibility in this regard consists of one year's service to a faculty for each year of support.

In another direction, the CFDE has recognized the fact that increased awareness of the impact of the full spectrum of dental auxiliary education, licensure and practice is of utmost importance in the delivery of quality dental services. As a result, in January of 1974 the CFDE funded the CDA Conference on Dental Auxiliaries. This meeting supplied the first major link in communication among the members of the dental health team in Canada and the results of the intensive workshop discussions have since been considered and further developed by the respective associations.

More recently, the CFDE again demonstrated its interest in advancing dental hygiene education by financing the CDHA Workshop for Clinical Dental Hygiene Educators which was held in Winnipeg in June 1976. This workshop provided a unique forum for discussions relating to common interests and concerns of those involved in dental hygiene education. The opportunity to meet formally on a national basis and to share information and techniques was invaluable. Currently, the Education Committee of the CDHA is planning another workshop for dental hygiene education advisors for which funding has been approved by the CFDE.

The Canadian Fund for Dental Education has a vast stake in all aspects of dental and dental auxiliary education and research, and the CDHA sincerely appreciates their encouragement and support which have been influential in the growth and achievements of the dental hygiene profession in Canada. With increasing support, it may be hoped that it will be able to in even more productive ways encourage programs that will ultimately help us to achieve our common goal of better dental health for all Canadians. The CFDE has recognized that the most valuable of all capital is that invested in human beings and it is hoped that you too will show this same interest during "October is CFDE Month".

M.J.D.

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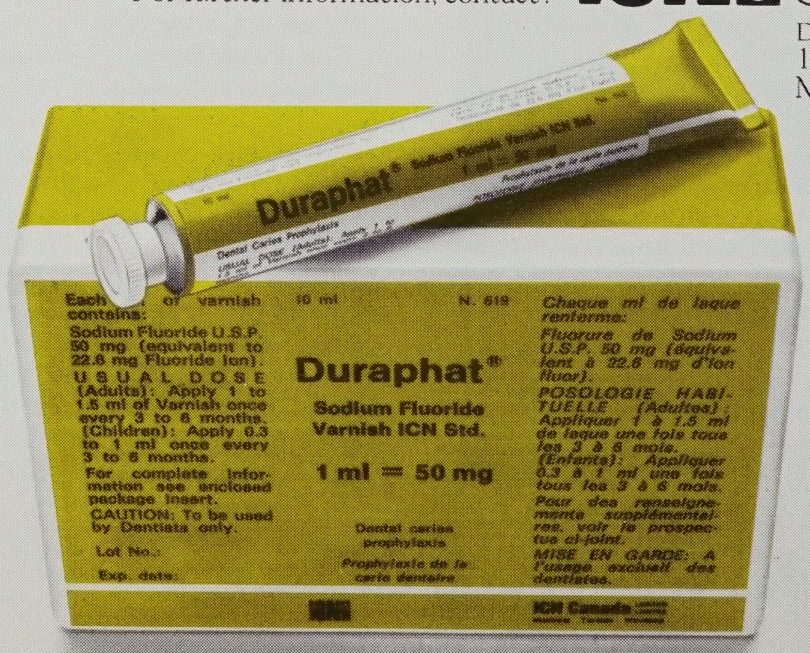

CFDE ANNUAL REPORT 1975

We've Achieved New Records

In 1975 the Fund's income was higher than ever before, and so was the measure of help it provided for dental education and research.

Perhaps the most encouraging of many exciting achievements was the substantial increase in gifts from the profession. Doctors gave $43,816 or over 17% more than in the previous year. Important factors in this handsome increase were 150 **new** supporters and 151 gifts of $100 or more. Hygienists also established a new record of support with gifts totalling $897.

Professional support is the foundation on which the Fund builds to achieve its objectives. On this expanding base more help for dentistry is assured.

Business and industry again responded generously with contributions of $54,370, up from the previous year by 8%.

Foundation support moved sharply ahead due to a Hospital for Sick Children Foundation research grant plus continuing help for CDA's accreditation program from the W.K. Kellogg Foundation.

Improved Capital Fund earnings increased investment income to $38,972.

Operational income from all sources reached a new high of $181,359, a 14% increase over 1974, our previous best.

Supplying urgently needed financial assistance for dental education and research is CFDE's only objective. It is particularly gratifying, therefore, that for the first time in its brief history the Fund provided over one hundred thousand dollars for this purpose in a single year. Total in 1975 was $124,622, up from 1974 by 26%.

A Promising New Research Project

A research project at the University of Toronto is aimed at providing clinical benefits in the treatment of congenital malformations and mandibular fractures. Work on the project started late in 1975 and is expected to continue over a three year period. The Hospital for Sick Children Foundation made a contribution of $18,535 to finance the first year of study.

Educating the Public

Preventive dental care and adequate dental health standards are everyone's concern. In 1975 the Fund trustees stepped up assistance in this critical area by approving a $5,000 grant to help launch CDA's Council on Information Services five year preventive program.

Funds were also provided for an educational preventive dentistry program at the University of Western Ontario.

Quality of Care

To a large degree the nation's standards of dental care depend on the quality of the professionals who instruct our incoming practitioners.

Ensuring that our dental faculties are adequately staffed with highly skilled instructors, has always been a prime objective of the Fund. Assistance in this area reached a record level of $65,810 in 1975.

CFDE teacher training fellowships are exchanged for teaching commitments, and in rare instances where the commitment is not fulfilled, the recipient refunds the full amount of the award.

ACKNOWLEDGEMENT

The CFDE trustees wish to pay tribute to the following individuals who contributed to the Dental Hygiene Fund in 1975.

Les fiduciaires du FCED désirent rendre hommage aux personnes suivantes qui ont contribué au Fonds d'hygiène dentaire en 1975.

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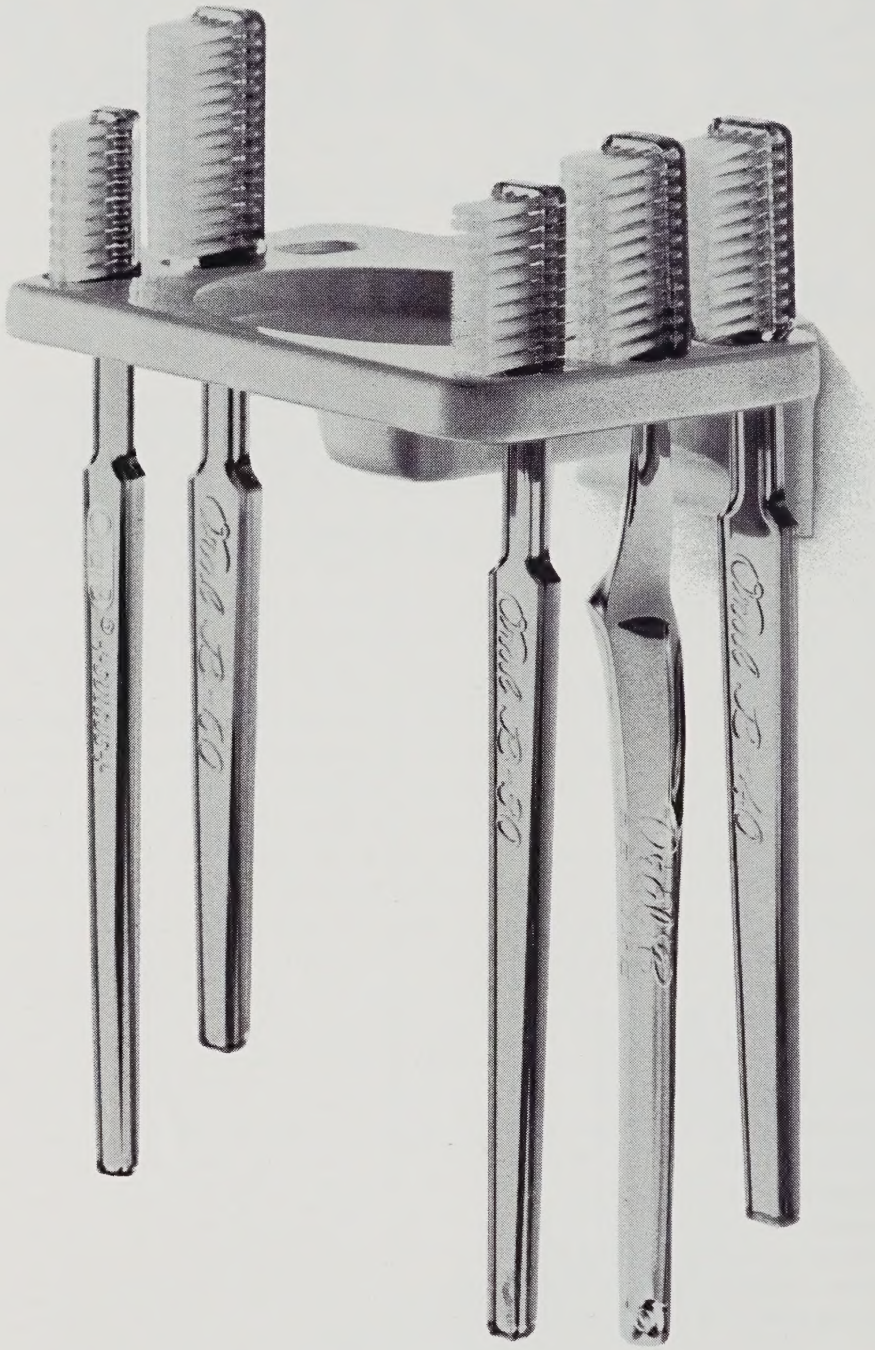

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RAPPORT ANNUEL 1975

Nous Avons Etabli de Nouveaux Records

En 1975, le revenu du Fonds a atteint un sommet jamais connu auparavant. L'envergure de l'assistance apportée à l'enseignement dentaire et à la recherche s'est accrue dans la même mesure.

Parmi les réalisations les plus marquantes, soulignons l'augmentation substantielle de dons provenant des membres de la profession. Les docteurs ont versé $43,816, ce qui représente plus de 17% d'augmentation sur les contributions de l'année précédente. Les causes principales de ce généreux accroissement sont attribuables à l'avènement de 150 nouveaux souscripteurs et à la réception de 150 dons de $100 et plus. De plus, les hygiénistes ont établi un nouveau record avec des dons atteignant $897.

La contribution des membres de la profession constitue la base sur laquelle le Fonds établit ses objectifs.

Par ailleurs, les domaines des affaires et de l'industrie ont répondu généreusement en versant des contributions s'élevant à $54,370, c'est-à-dire 8% de plus que celles de l'année précédente.

L'appui venant des fondations a connu un progrès marqué grâce à l'apport d'une subvention à la recherche versée par la Fondation de l'Hôpital pour les enfants malades, et, d'autre part, par le maintien de l'assistance du programme d'agrement de l'ADC provenant de la Fondation W.K. Kellogg.

L'augmentation des gains du fonds de capital a accru le revenu de placements de $38,972.

Les revenus d'exploitations de toutes provenances ont marqué un nouveau sommet, s'élevant à $181,359, une augmentation de 14% sur ceux de 1974, notre précédent record.

L'unique objectif du FCED consiste à fournir l'assistance financière requise de toute urgence pour subvenir aux besoins de l'enseignement et de la recherche dentaires. En conséquence, il apparaît particulièrement réconfortant de constate que pour la première fois de sa brève histoire, le Fonds a pourvu au delà de cent mille dollars à cette fin en une seule année. En 1975, il fut possible d'affecter $124,622 à cet objectif, c'est-à-dire 26% de plus qu'en 1974.

Un Nouveau Project Rempli de Promesses

A l'Université de Toronto, un projet de recherche se propose d'apporter l'avantage des ressources cliniques au benéfice du traitement des malformations congénitales et des fractures mandibulaires. Les travaux relatifs au projet ont débuté vers la fin de 1975 et ils se poursuivront durant les trois années subséquentes. La première année de ces travaux est financée par une subvention de $18,535 versée par la Fondation de l'Hôpital pour les enfants malades.

L'education du Public

Chaque individu se préoccupe de l'existence de soins dentaires préventifs et de normes convenables de sante dentaire. Aussi, les fiduciaires du Fonds ont voulu accroître l'assistance accordée à ce domaine critique en versant une subvention de $5,000 pour appuyer l'action du programme préventif de cinq années mis en oeuvre par le Conseil des Services d'information de l'ADC.

Des fonds ont aussi été versés pour financer un programme d'enseignement de dentisterie préventive a l'Université de Western Ontario.

La Qualite des Soins

Les normes des soins dentaires distribués à la population dépendent, dans une large mesure, de la valeur même des représentants de la profession dentaire chargés de la formation des futurs praticiens.

Les responsables du Fonds ont toujours considéré comme objectif premier les mesures permettant de fournir à nos facultés dentaires le nombre requis de personnel enseignant de haute compétence qu'elles réclament. Dans ce domaine, l'assistance a atteint une subvention record de $65,810 en 1975.

Les bourses d'études accordées par le FCED sont consenties à condition que le boursier s'engage à se consacrer à l'enseignement. Dans les rares circonstances où le bénéficiaire n'a pas rempli ses engagements, ce dernier rembourse tous les versements reçus.

CFDE GRANTS FOR 1976

Here are grants already approved for 1976 that the CFDE Trustees are confident will benefit the profession and the public:

Biennial Conference on Dental Research and Education	$10,000
Teacher Training Fellowships for 17 Dentists and 5 Dental Hygienists	$64,000
Grants to each Dental School	$10,000
Graduate and Undergraduate Accreditation Surveys (W.K. Kellogg Foundation Grant)	$14,000
Students' Conference and Student Table Clinic Program	$10,500
Research Project at the University of Toronto funded by a Sick Children's Hospital Foundation Grant	$17,000

These plus other awards will provide a record shattering total of over $143,000 in assistance for dentistry in 1976. That's 15% more than ever before.

Won't you join your confreres in helping to advance your profession? It's easy!

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DENTAL HYGIENE EDUCATORS MEET

The first Workshop for Canadian Dental Hygiene Educators was held at the University of Manitoba, June 2 to 4, 1976. This workshop, which was sponsored by the Canadian Dental Hygienists' Association and funded by the Canadian Fund for Dental Education through a special grant from Proctor and Gamble, was organized under the chairmanship of Joan Voris and Marnie Forgay. In attendance were twenty-two delegates representing ten Canadian dental hygiene programs. Mick Johnson from the University of Minnesota served as the leader for the workshop activities and other resource persons included Joan Conklin from the University of Alberta, Cathy Newell and Mary Lou Haider from the University of Minnesota and Marjorie Dimitri from the University of British Columbia.

The program for the workshop provided opportunities for the participants to explore various aspects of competency based education, instructional materials and methods, and student evaluation. In addition, it provided a unique medium in which other areas of mutual interest and concern could be freely discussed. The most important outcomes of this workshop were a better understanding of dental hygiene education in Canada as it exists today and the interest in increasing communication on the national level.

President Iris Gold welcomes participants on behalf of CDHA.

Participants engage in small group discussions.

Individual delegates share ideas and experiences.

Mick Johnson presents overview of workshop activities.

ADA COUNCIL ACCEPTS MACLEANS TOOTHPASTE

The May issue of the Journal of the American Dental Association contained a Council on Dental Therapeutics' report announcing the acceptance of Macleans Fluoride Toothpaste as an effective agent in helping to reduce the incidence of dental decay when use is included in an appropriate program of oral hygiene and regular professional care.

It should be noted in the light of the recent publicity relating to chloroform causing cancer in laboratory animals, that Macleans Fluoride Toothpaste does not contain chloroform as a flavoring agent, nor does any other toothpaste accepted by the ADA Council on Dental Therapeutics.

HEADS UP DENTAL HYGIENE AT UNIVERSITY OF ALBERTA

Joan Conklin recently joined the staff of the University of Alberta as head of the school of dental hygiene. She was formerly education co-ordinator for the College of Dental Surgeons of British Columbia.

Miss Conklin received her bachelor's and master's degrees in dental hygiene from Columbia University. She was a practising dental hygienist for some time and for two years, taught at the University of Alberta's school of dental hygiene. She was then appointed head of the dental hygiene department at Westbrook College in Portland, Maine, and was also director of Portland's Division of Dental Health Education.

QUEBEC CHILDREN NOT USING DENTICARE

Even though the Quebec government has just extended denticare to all children in the province under the age of 10, Charles Gosselin, president of the Order of Dentists of Quebec says that only two out of seven use the program. Dr. Gosselin announced at Les Journees Dentaires du Quebec that the Order has commissioned sociology students from Laval University to conduct an 18-24 month study of the dental profession in Quebec and to make recommendations aimed at better distribution and accessibility of services throughout the province. There are 1,300 dentists in the province and all but 60 participate in the denticare plan.

AUXILIARY TRAINING PROGRAM FOR GEORGE BROWN COLLEGE

George Brown College of Applied Arts and Technology recently received a grant of $121,330 from the Federal Health Resources Fund to assist with construction costs in its health training facilities. The provincial government matched this grant with an equal amount.

The grant will be used for renovating and equipping part of the facilities at George Brown to enable the college to institute a three-year program for training dental assistants, preventive dental assistants and dental hygienists. The renovation work will provide students with proper facilities equipped with x-ray, dental and other equipment at 31 student stations. It is anticipated that up to 144 students will be enrolled in the three-year program.

NOVA SCOTIA GOES SLOW ON NEW DENTAL SCHOOL

During consideration of the Nova Scotia government health estimates, health minister Allan Sullivan stated that he had no intention of rushing into construction of a new dental school in the province until he had obtained alternatives and commitments from members of the dental profession. It has been proposed that the four Atlantic provinces combine resources to enlarge Dalhousie Dental School. To date only New Brunswick and Prince Edward Island have each made such a commitment. Newfoundland and Nova Scotia have not yet agreed to participate in the expansion plans. Federal health resources funds would provide approximately $16 million but the four provinces would have to provide another $9 million plus operating costs.

CDA FLUORIDATION OFFICER

When the CDA moved to its new Ottawa headquarters, Lloyd Bowen, CDA's Fluoridation Officer, remained in Toronto in an office provided by the Ontario Dental Association. Mr. Bowen is recognized as Canada's foremost authority on the status of fluoridation in this country. Prior to joining the CDA staff in 1969, he served as executive secretary of the Health League of Canada's National Fluoridation Committee. He is currently honorary executive secretary of this same committee. Those wishing to obtain information on the subject of fluoridation are advised to contact Mr. Bowen at 234 St. George Street, Toronto, Ontario M5R 2P2.

NEW AMA PAMPHLET SUPPORTS FLUORIDATION

A new pamphlet published by the American Medical Association strongly supports fluoridation as a practical, effective, inexpensive and safe public health measure. The pamphlet is entitled "Efficacy and Safety of Fluoridation".

After a thorough evaluation of the available scientific evidence, the publication was developed by the AMA Council on Foods and Nutrition. It details the effect of fluoridation on body organs and disease, and concludes that "fluoridation of public water supplies at the recommended level is a desirable and safe health measure for total populations". All communities are urged to adopt fluoridation. The 18-page pamphlet contains a list of 129 references to support the findings.

Single copies of the pamphlet are available without charge from the AMA Council on Foods and Nutrition, 535 North Dearborn St., Chicago, 60610. There is a charge for multiple copies.

6th INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

June 30 to July 2, 1977

Stockholm, Sweden

Hosted by the Swedish Dental Hygienists' Association

CALL FOR PAPERS

"Plaque Control" has been selected as the theme of the 6th International Symposium on Dental Hygiene and a call for papers has been issued by the Swedish Dental Hygienists' Association. Dental hygienists interested in participating in the program are asked to submit a summary of a 15 minute presentation relating to the theme for consideration by the Organizing Committee of the Symposium.

Submissions should be approximately 200 words in length and should be sent by October 1st to:

Eve Runsten, Secretary General
6th International Symposium
on Dental Hygiene
c/o RESO Congress Service
S-105 24 STOCKHOLM
Sweden

If further information is requested about the Symposium or about the call for papers, please feel free to contact our Canadian representative to the International Liaison Committee:

Joan Voris
3589 Osler Street
Vancouver, B.C. V6H 2W5

AMERICAN SOCIETY FOR PREVENTIVE DENTISTRY

Berril Garshowitz, a Toronto dentist, has been installed as a member of the National Board of Directors of the American Society for Preventive Dentistry. Dr. Garshowitz, who has operated a general practice in Toronto since 1957, has served as an executive of the Ontario chapter of ASPD since its inception in 1972 and is president-elect of the Chapter for 1977.

The American Society for Preventive Dentistry is an organization concerned with the oral health of the public and is engaged in extensive programs of education designed to create public awareness that proper personal daily care of the teeth not only preserves the teeth, but actually reduces dental disease and, in many cases, other types of disease. Membership in the Society is made up of individuals in the dental and public health professions, along with other individuals interested in the prevention of oral disease.

1976 AWARDS TO GRADUATE DENTAL HYGIENISTS

The Board of Trustees of the CFDE are pleased to announce the 1976 denhygiene recipients of teacher training fellowships:

- Margery G.E. Forgay of Winnipeg who is pursuing a Masters Degree in Adult Education at U.B.C.
- Donna Elizabeth Howard of Vancouver who is pursuing a Bachelor of Science degree in Dental Hygiene at Idaho State University.
- Peggy Marlene Larder of Nova Scotia who is pursuing a Bachelor of Science degree in Education majoring in Health Education at Northeastern University.
- Deanna Silver of Dartmouth who is pursuing a Bachelor of Arts degree in Sociology at St. Mary's University.
- Pamela Sue Waters of Edmonton who is pursuing a Bachelor of Education degree at the University of Alberta.

NEW ADDRESS FOR CFDE

CFDE has moved to their new office: Suite 205, 44 Eglinton Avenue West, Toronto, Ontario M4R 1A1. Arrangements have been made with the post office to forward all mail sent to their previous address. However, it will speed up delivery if the new address is used from now on.

BOTULISM AND HOME CANNING*

In Canada last year, four people died after eating improperly prepared marine products. They were victims of the deadliest form of food poisoning known to man, *BOTULISM*. Though it is extremely rare, botulism strikes several Canadians every year. There have been a few cases of botulism due to inadequately processed commercially prepared foods, but most outbreaks are associated with home prepared foods which have been improperly preserved, stored under anaerobic (in the absence of oxygen) conditions, and consumed without appropriate heating.

What is Botulism?

Botulism is a food-borne illness or food intoxication caused by the spore-forming micro-organism, *Clostridium botulinum*. This bacteria and its spores are found everywhere; in the soil, on raw fruits and vegetables, and on meat and fish. The spores are the inactive form of the bacteria and are very resistant to adverse conditions, such as heat and chemical treatment, that normally will destroy the actively growing micro-organism. However, in low-acid food, under anaerobic conditions, the botulinum spores become active, begin to grow, and produce a toxin or poisonous substance. If a food becomes contaminated and is eaten without sufficient heat treatment to destroy the toxin, severe illness and, in many cases, death can occur.

Botulism is a tragic and poorly understood disease. It differs from other types of bacterial-caused food poisoning, in that it affects the nervous system rather than the digestive tract.

How Does It Occur?

Botulinum toxin can occur in low-acid canned or processed foods whenever inadequate heating or processing permits spore survival. Conditions which contribute to the development of toxin are:

- lack of air, as in a sealed can, jar, or plastic package.
- foods which contain little or no added acid: some examples are meat, poultry, fish, seafood, mushrooms, eggs and most vegetables; chili peppers, cucumbers and certain varieties of tomatoes have only a medium acid content and should be treated with care.
- temperatures between 4° C (40° F) and 46° C (115° F). Growth of the spores is fastest at about 38 C (100° F).

If these conditions are present and adequate precautions are not taken, botulinum spores can germinate and produce a toxin so potent that one cupful of the pure toxin, it is estimated, could kill the entire population of the world.

Sometimes cans or jars with food containing botulinum toxin will bulge or have off odours, but this doesn't always happen. It is not uncommon for a botulinum-contaminated food to appear and smell normal.

Frozen or dried foods and those with high concentrations of acid, salt or sugar do not support the growth of botulinum bacteria and are therefore usually quite safe to eat.

Symptoms of Botulism Poisoning

The early signs of botulism — fatigue, weakness and blurred vision — usually develop about 8 to 72 hours after eating food containing botulinum toxin. These symptoms are followed by laboured breathing, difficulty in speaking clearly, dizziness, headaches, abdominal discomfort, vomiting and muscle paralysis. Botulism is difficult to diagnose because of its rare occurrence and the similarity of its symptoms to many other illnesses. An antitoxin does exist, but it should be given as soon as possible and is not always completely effective.

Health Protection Branch Control

Under the authority of the Food and Drugs Act and Regulations, the Health Protection Branch of Health and Welfare Canada regulates the manufacture and distribution of food products sold in Canada. General provisions in the Act make it possible for the Branch to exercise control over the spread of pathogenic micro-organisms. Several regulations deal specifically with the problem of *C.botulinum*. Some examples are:

- Fish — smoked fish or smoked fish products which are packed in containers sealed to exclude air must be heat processed after sealing at a temperature and for a time sufficient to destroy *C.botulinum*.
- Meat — meats packed in hermetically sealed containers must be heat processed to prevent the survival of any toxin-producing micro-organisms. Meats which are not heat treated in this way must be subjected to further processing such as freezing, dehydration, or the addition of preservatives or an acid medium.

In addition to legislation the Health Protection Branch plays a major role in inspection, research and education to ensure a safe food supply for Canadians.

Botulism Reference Centre

Recently, the work of the Botulism Reference Centre for Canada has come under the responsibility of the Health Protection Branch. This centre provides several important services such as investigating cases of food poisoning where botulism is suspected, alerting responsible agencies when a commercially produced food is involved, accumulating information on botulism, and maintaining reference cultures and supplies of antitoxin.

Whenever botulism is suspected, you should contact your physician or local health unit immediately so that they can alert the Botulism Reference Centre, and if necessary commence treatment.

Preventive Measures for Consumers

As a consumer, food safety in the home is YOUR responsibility. To guard against botulism, follow these simple preventive guidelines:

Commercially Prepared Foods

- Never use or even taste canned foods that show any sign of spoilage. Bulging can ends and jar lids usually indicate spoilage. When you open the container, check for off odours, froth, foam or mold.
- When a commercially prepared food is involved, a large number of people may be at risk; therefore, report any suspect food to your local public health authorities or the Health Protection Branch.

Home Canned Foods

- Always follow recommended canning procedures (See NOTE).
- All vegetables, meat, and fish must be processed in a pressure canner. Boiling temperatures are insufficient to destroy all the bacterial spores in these foods. Meat and fish are particularly susceptible to the growth of botulinum bacteria; they are not recommended for home canning.
- Check containers and contents before using the food. If there are any signs of spoilage, do not taste it. **THROW IT OUT.**
- Often there may be no signs of spoilage. As an extra measure of safety, it is a wise precaution to boil home canned vegetables for 10 minutes before tasting.
- A reminder: canned fruits, jams and jellies, and pickles and relishes do not cause botulism; high concentrations of acid, salt or sugar prevent the growth of botulinum bacteria.

NOTE: Agriculture Canada's booklet "Canning Canadian Fruits and Vegetables", #1560 may be obtained by writing the Information Division, Agriculture Canada, Ottawa K1A 0C7.

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Material Available from Educational Services, Health Protection Branch

The Can With A Story — Tear sheet
Danger Zone In the Kitchen — Programmed learning booklet
Food Safety — It's All in Your Hands — Booklet
Food Poisoning — Leaflet
The Danger Zone — Poster

Available from Visual Education Centre, 115 Berkeley Street, Toronto, Ontario M5A 2W8

Food - Handle With Care — Slide Series

* *Dispatch, Educational Services, Health Protection Branch, Health and Welfare Canada*

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FOOD ADDITIVES*

Modern technology enables us to gather fresh foods and food ingredients from all over the world, and food additives allow us to process those foods in a manner which ensures us an abundant food supply all through the year. The use of food additivies has kept pace with technological advances in food processing and improved systems of food transportation. Meanwhile, as the use of additives has grown, so has concern about the necessity and safety of adding so many non-food substances to our foods.

What is a Food Additive?

Generally, a food additive is thought to be any substance added to a food as a result of production, processing, packaging or storing. The legal definition, however, is somewhat more restrictive. The Canadian Food and Drug Regulations define a food additive as "any substance, including any source of radiation, the use of which results, or may reasonably be expected to result in it or its by-products becoming a part of or affecting the characteristics of a food".

The definition does not include nutritive materials such as salt, sugar and starch as food additives, because each of them is "used, recognized or commonly sold as an article or ingredient of food". Other ingredients such as vitamins, mineral nutrients, amino acids, spices, seasonings and flavouring preparations are excluded from the definition as are pesticides, food packaging materials and veterinary drugs because each of these items is covered separately in the Food and Drug Regulations.

Food additives may be natural in origin, such as lecithin from soybeans, or synthetically produced, such as calcium propionate. Regardless of their origins, additives are chemicals, a fact that disturbs some consumers. That they are chemicals should not alarm us, however, since all foods, indeed all things, including man, may be viewed as composed of chemical entities. Actually, many common kitchen ingredients are chemical additives like vinegar (acetic acid), baking soda (sodium bicarbonate), and meat tenderizer (papain).

Why Do We Use Food Additives?

In 1955, the United Nations established the FAO/WHO Expert Committee on Food Additives to standardize the uses and purity of food additives. According to guidelines issued by the committee in 1956 and subsequently adopted by Canada, food additives are justified when they serve one or more of the following purposes:

1. *"Maintaining the nutritional quality of a food;"*
   For example, the vitamin A liquids which are added to certain milk products in Canada may break down unless protected. By adding an antioxidant such as butylated hydroxyanisole (BHA) to vitamin preparations destined for food use, the vitamin breakdown is prevented and the nutritional value of the vitamin is maintained so that it will be fully imparted to the food.
2. *"Enhancing the keeping quality or stability with resulting reduction in food wastage;"*
   Preservatives play a major role in extending the natural "life" of many foods (canned meats, baked goods, jams, jellies, etc.) so that they may be transported over vast distances, stored for considerable lengths of time and still be consumed safely.
3. *"Making foods attractive to the consumer in a manner which does not lead to deception;"*
   Food additives such as colours and texture agents, are used in Canada to correct natural variations in foods so that a particular food looks, tastes, and performs the same way every time, thus making it attractive to the consumer.
   A large variety of attractive-convenience foods (snack foods, one pan dinners, frozen desserts, etc.) are also made possible through the use of additives.
4. *"Providing essential aids in food processing;"*
   Some food manufacturing processes require the use of stabilizing, clarifying, oxidizing and sequestering agents and other processing materials. The use of these substances often permits the economical large-scale manufacture of foods of constant composition and quality throughout the year.

What Are Some Common Types Of Food Additives?

The use of food additives in Canada is purely optional, but when a manufacturer chooses to use food additives, he must choose from those listed in the 15 Food Additive Tables in the Food and Drug Regulations. The tables list the additive, the foods it is permitted in or upon, its purpose in those foods, and the maximum level of use. The additives are classified mainly by function, such as: preservatives, texture agents, pH-adjusting agents, colours, anti-caking agents, etc.

Preservatives maintain the appearance, palatability and wholesomeness of foods, because they retard or eliminate food spoilage caused by microorganisms. Food spoilage is one of the world's most serious food problems. In fact, the World Health Organization (WHO) estimates that 20% of the world's food supply is lost through spoilage. Wider use of preservatives might possibly save most of that food. The two broad categories of preservatives are antimycotics and antioxidants.

Antimycotics prevent the formation of moulds and include additives such as sodium diacetate and calcium propionate (which prevent "rope" mould in bread), sorbic acid (which prevents mould in cheeses, syrup and confections), benzoic acid and sodium benzoate (which preserve fruit products, pickles and relishes) and sulphur dioxide (which inhibits mould and discolouration in wine, fruit pulps, fruit juice concentrates, and dried fruits and vegetables).

Antioxidants are added to fatty foods (cooking oils, dried breakfast cereals, potato chips, etc.) primarily to prevent rancidity; they are also used to keep foods packaged in transparent wrap from discolouring. Some common antioxidants are butylated hydroxyanisole (BHA), butylated hydroxytoluene (BHT), and ascorbic acid.

Another major group of additives is the **texture agents** which impart and maintain desired consistency in foods. Included in this group are emulsifiers, stabilizers, and thickeners. Emulsifiers permit the dispersion of tiny globules of one liquid in another (e.g. oil and vinegar dressing, mayonnaise); they also improve the volume, uniformity, and fineness of grain in bread and rolls. Stabilizers are used in products such as chocolate milk to keep the chocolate particles from separating and settling to the bottom, and in ice cream to prevent the formation of ice crystals. Among the most common of these agents are gums such as carrageen and acacia gum, lecithin, mono and diglycerides. Thickeners such as agar, cellulose and pectin are used to thicken ice creams, frozen desserts, and confections.

pH adjusting agents which control the acidity or alkalinity (pH) of foods include acids, alkalies and buffering agents. These agents are used extensively for technological purposes in the manufacture of a variety of foods (baked goods, soft drinks, chocolate, etc.). Their effect may also be to slightly modify taste. Citric acid, for example, intensifies fruit flavours.

Colours, both natural and synthetic, constitute another class of additives. Some common examples are annatto, carotene, and caramel. They are added to food mainly to give it an appetizing appearance, because the way a food looks has a definite effect on its palatability. Colouring agents are permitted in soft drinks, frozen desserts, gelatin desserts, puddings and smoked fish, to name just a few.

Food additives used by the bakery industry include **bleaching** and **maturing agents**. Freshly milled wheat flour, which is yellowish in colour, will, if left alone, gradually whiten. Bleaching agents hasten this process and make it possible to have high quality flour quickly and consistently. **Leavening agents** such as baking powder, and baking soda, are also widely used in baked goods, because they react chemically to release carbon dioxide into the product being baked, giving it a lighter texture.

In addition to the additives previously mentioned, there are a number of other agents, such as:

- **Food enzymes** which act as catalysts to trigger desired chemical reactions in certain foods; for example, rennett is an enzyme used to curdle milk in the making of cheese;
- **Sequestrants** which are added to foods to inactivate ions of any metallic elements which may be present so they do not interfere with food processing. In fats and oils, for example, traces of unsequestered copper and iron could initiate processes leading to the development of rancidity;
- **Humectants** which maintain desired moisture levels in such foods as shredded coconut and marshmallows;
- **Anticaking agents** which are used in many salts and dried powdered mixes to keep them free-running;
- **Glazing agents** which make certain food surfaces shiny and in some cases protect the product from spoiling; they are used mainly in candies;
- **Firming and crisping agents** which maintain the texture of a number of processed fruits and vegetables (maraschino cherries, pickles, etc.) which would otherwise go soft;
- **Release agents** which help food separate from surfaces it touches during manufacture or transport: for example, they are used in removing bakery goods from baking pans without having them stick or crumble;
- Pressure-packed **foaming or whipping agents** which are used in dessert toppings to dispense the product in a whipped state;
- **Non-nutritive sweeteners** like saccharin which are used to sweeten dietetic foods and contain no calories or food value.

Who Controls Food Additives?

The control of food additives in Canada is one of the responsibilities of the Health Protection Branch. The branch's food inspectors regularly examine food manufacturing plants to make sure the manufacturer is abiding by the additive specifications laid down in the previously mentioned Food Additive Tables. A manufacturer may be prosecuted if he uses additives in amounts violating the Regulations or additives which have not been officially added to the permitted list.

When a food additive is used in Canada, it must meet certain standards of purity such as those specified in the Canadian Food and Drug Regulations or the Food Chemicals Codex (FCC) published by the National Research Council of the United States. Canada has adopted FCC purity standards for some Canadian additives for which there are no specifications set out in the Food and Drug Regulations.

When a manufacturer wishes to introduce a new additive in Canada or use a permitted additive in a non-approved manner, he must submit an application to the Health Protection Branch containing the following information:

- physico-chemical properties of the product — chemical name, its composition and specifications
- justification for use
- amounts to be used
- detailed reports of tests made to establish the safety of the food additive under the conditions of use recommended
- data to indicate residues that may remain in the finished food
- proposed maximum limit for residue of the food additive in or upon the finished food
- specimens of proposed labelling
- a sample of the food additive in the form in which it is proposed to be used and
- a sample of the active ingredient.

The submission is then evaluated by officers of the Health Protection Branch who report their findings to the Minister. The Minister then recommends acceptance or refusal of the new additive or additive use to the Governor-in-Council, who, in turn, approves or denies its addition to the additive tables.

Additive Safety

As was previously mentioned, when a manufacturer in Canada wishes to market a food product containing a new additive, he must include in his submission reports of animal studies which indicate that the additive will be safe for human consumption at proposed levels of use. These studies determine the dosage level of the additive which will have no discernible effect (i.e., the "no effect level") in the most sensitive species of animals tested.

In an attempt to provide a quantitative expression of "safe" amounts of intentional food additives for the guidance of regulatory agencies, the concept of Acceptable Daily Intake (ADI) was developed. The ADI is the daily dosage of a chemical which may be consumed for a lifetime without appreciable risk on the basis of all the facts known at the time. This is generally derived by dividing the "no effect level" obtained from animal studies by 100. The 100-fold safety factor is based on the premise that man may be more sensitive to the additive than other animals, and that certain men may be more sensitive than the norm.

Additives are also being continually reviewed by the Health Protection Branch. If new data indicates that a particular permitted additive is hazardous, recommendation is made to have it removed from the Food Additive Tables. This has happened thirteen times in the last twenty years with additives such as Guinea green, diethylpyrocarbonate, and the cyclamates.

For several years, there has been considerable controversy over the use of food additives in Canada and internationally. However, no matter what one's views on additives may be, it is true that without them, many food products could not be offered for sale in their present form, and those that were available would be more expensive. The use of food additives allows for much of the variety and convenience in our food supply, and provided controls such as those outlined above are utilized, there should be no undue concern about the safety of using additives. Moreover, if food production is to keep pace with population growth and the effort to improve nutrition generally in undernourished areas, chemicals such as food additives will inevitably play an increasingly important role.

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THE ROLE OF THE TONGUE IN SPEECH

MICHELLE THEBERGE

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Speech is a very complex tool of communication which makes man different from any other creature on earth. Communication begins with the birth cry of the newborn infant. This basic cry may be modified to a certain extent to show different emotions but for the first three weeks of life, cries, coughs, and gurgles make up the sum of the newborn's vocal products. Variety in sounds produced by changes in duration, pitch and use of the articulatory organs create pseudocries which are cry vocalizations. Pseudocries are apparent from three weeks to four or five months of age. The babbling period occurs during the last half of the first year. Patterned "true speech" begins sometime near the end of the first year. When the child is about two and a half years old, the relative proportions of all sounds used in speech are about the same as in the adult.(1)

Speech as we know it is learned, developed, and controlled by the feed-back mechanisms of hearing on the one hand and the motor control over the complex vocal and oral musculature on the other. Direct evidence for this can be seen in people who are deaf from birth and have great difficulty in learning speech. The same is true for dental patients following mandibular block anaesthesia who have speech difficulties until the effect of the anaesthetic is lost.

The "Organ Pipe"

The speech apparatus in man is in some ways analogous to a pipe organ. There are parts which produce air at varying flow rates and volume (the air pump) and parts which modulate the air to produce sounds (the organ pipe).

The first part of the system is obviously the lungs, the muscles controlling the diaphragm and abdomen. The second part of the system can be divided into three closely interrelated anatomical areas: the vocal chords, the pharangeal — oral pathway, and the pharangeal — nasal pathway. The vocal chords are "V"-shaped, bi-lateral structures at the upper end of the trachea and are capable of opening and closing, rotating and vibrating. They thus act rather like a double leaf reed in a bassoon. The pharangeal — oral pathway is a structure which can have its length and breadth altered an infinite number of ways. The pharynx, soft palate, cheeks, tongue, lips and teeth all play a vital role in producing the articulate sounds we recognize as language. This paper will mainly concern itself with the tongue in this process. The pharangeal — nasal pathway can in some circumstances be used to produce sounds of its own, but usually it is used in conjunction with the pharangeal — oral pathway. The air flow is controlled to a large extent by the soft palate and uvula for this purpose.

Speech

No attempt is made in this paper to use recognized phonetic symbols; rather, words in common usage in the English language have been made the vehicle for transmitting the sound effect required. The vowel or consonant involved is underlined. One also recognizes the fact that even within the English language great variations exist with regard to the pronunciation of some vowels and consonants; thus an attempt has been made to use the pronunciation most common in North America. Lastly, no attempt has been made to include the entire range of vowels and consonants. Instead examples have been taken from various groups to illustrate variations in tongue and lip postures which control to a large extent, the sounds being made.

Vowels

The position of the tongue and the lips, in addition to the excitation of the vocal chords, appear to play an important role in the development of vowel sounds. If one combines an analysis of the lip and tongue posture, two broad groups of positions can be seen. The tongue is described as taking on either an anterior or posterior "hump" position. In conjunction with the "tongue — hump" position, the lips will vary in their degree of openness from slightly constricted to open as measured by incisal clearance.(3)

The vowels in b<u>oo</u>t and c<u>ou</u>ld can be produced with a posterior "tongue — hump" position and the lips fairly constricted with an incisal opening of approximately 4.5mm. At the other extreme, the vowel in f<u>a</u>ther is produced with the lips apart and with an incisal clearance of approximately 6.5mm.

and a posterior "tongue — hump" position. The sound in he and feet will be produced if the "tongue — hump" position is mainly anterior with the lips only slightly apart and an incisal clearance of approximately 6.1mm., and an anterior "tongue — hump" position. Thus, the range of vowels depends not only on the specific vocal cord excitation, but also on the position of the tongue, lips and other soft tissue components in oral cavity which control air flow.(4)

Consonants

Consonants can be broadly divided into two groups: voiced and unvoiced. In the first group, there is excitation of the vocal chords while in the second there is none. Both groups require careful positioning of the tongue and lips to produce the required sound. Thus, while the tongue position may stay fundamentally the same, the consonant sound produced will depend on whether the vocal chord is used or not. There are five main positions that the lip or anterior third of the tongue may take for the production of consonants. In the first most anterior position, the tip of the tongue presses against the lingual aspect of the mandibular incisors with the lips only slightly apart. In this position, one can produce the voiced consonant as in vote or the unvoiced sound as in for. Moving posteriorly, the second position is with the tongue against the palatal mucosa and the cervical area of the maxillary incisors. The third position is more posterior with the tongue pressing against the anterior palate without touching the teeth. In the fourth position, the tongue touches the mid-palate. In the last position, the posterior third of the tongue is "humped" while the uvula comes downward and forward so that fairly "throaty" consonants such as key, which is unvoiced and go, which is voiced are produced.(3)

Conclusion

It is hoped that this brief paper will give some idea about the complexities of speech. It is important for those who work in the oral cavity to realize that it is a delicately balanced mechanism which is carefully tuned for speech. It is possible with unintelligent interference on our part to upset this balance and do considerable damage, both physically and psychologically. Frequently, dental professionals may well be the first to recognize a speech problem which can be rectified early in life, but becomes increasingly difficult to treat in later years.

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NATIONWIDE

SMOKING AND HEALTH

In the spring issue the January 1976 news release from the Department of National Health and Welfare on smoking statistics was reprinted. The release mentioned that the Health and Welfare Minister, Marc Lalonde has signed a letter jointly with the President of the Canadian Medical Association, Dr. L.C. Grisdale which was sent to over 38,000 physicians across Canada. The letter asked the physicians to refrain from smoking while conducting professional duties and provided them with a prescription sign that asks patients in the waiting room to refrain from smoking as well. Perhaps we in the dental field could follow the same advice. At least one province (Ontario) is considering the possibility of prohibiting smoking in medical and dental offices. If you would like some literature to use in promoting an anti-smoking campaign write to Smoking and Health, National Health and Welfare, Ottawa, Ontario K1A 1B6. Posters, pamphlets and desk or wall cards are available in French and English free of charge. A list of other Canadian sources of literature, including the Canadian Dental Association, is obtainable. Of particular interest is the *Smoker's Self-Testing Kit* reprinted with the permission of the "National Clearing House for Smoking and Health" of the United States Public Health Service. The kit was designed (1) to help you decide whether you want to give up smoking, (2) to give you some understanding of the problems you might run into, and (3) to provide some guidelines on how to meet these problems. As health professionals we should try not to smoke and to encourage patients to do the same — particularly in crowded waiting rooms. The detrimental effects of smoking on our oral as well as general health are well known. Now, it is a matter of convincing people to change old habits. The strongest supporters of such promotional programs are the former smokers themselves. They appreciate the benefits of quitting to smoke. After all, it might make a difference, if, like a cat, we had nine lives!

Sharon B. French,
Ottawa, Ontario

THE ONTARIO DENTAL HYGIENISTS' SURVEY

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When the Dental Health Care Services Research Unit of the University of Toronto, Faculty of Dentistry decided to undertake a survey of Ontario dental hygienists in late 1974, little was known about the working careers of hygienists in the province. The Manpower and Utilization Committee of the Canadian Dental Hygienists' Association had conducted a national survey of dental hygienists in June 1973, but this survey was designed to provide information on the current employment status of hygienists and not on their whole working careers. The Ontario Dental Hygienists' Survey was designed to provide information on the working careers of the 771 dental hygienists who had graduated in Ontario, or who had registered to practise in the province, or both, prior to the end of 1974.

Shortly after the present survey was conducted, changes in the legislation regulating the dental hygiene profession in Ontario came into effect. Until 1974, all training of hygienists in Ontario had taken place at the University of Toronto, Faculty of Dentistry.(1) Under the new Health Disciplines Act, the training of dental hygienists is being shifted to community colleges throughout the province. The Act also provides for the training of preventive dental assistants, and hygienists with expanded duties. In the future, it will be interesting to compare the career patterns of the new preventive dental assistants, and hygienists with expanded duties, with those of the hygienists who responded to this survey.

An attempt to describe the career patterns of dental hygienists in Ontario runs up against one major problem — the youthfulness of hygienists as a group. A large proportion of Ontario hygienists are only at the beginning of their careers. Another sizeable proportion have ended the first stage of their careers, having left the workforce after being employed for a more or less lengthy period of time after graduation. But it is still too early to see whether or not these hygienists will return to the workforce in the future. The youthfulness of Ontario hygienists can be primarily attributed to two related factors: the first class of dental hygienists in the province did not graduate until 1953; and very few hygienists graduated prior to 1963. Between 1953 and 1962, 5 to 16 dental hygienists graduated from the University of Toronto per year, while between 1963 and 1974, 37 to 53 hygienists graduated per year.

Methods

A questionnaire was developed for the dental hygienists' survey and pretested on 67 hygienists who attended the Academy of Dentistry's annual Winter Clinic in Toronto in November 1974. The final version of the questionnaire contained: a brief introduction, replacing the traditional cover letter; a short section requesting basic information — name, place of residence, marital status, year of birth, place and year of graduation, and first year of registration in Ontario; and sections relating to employment history, status, and future intentions.

Current addresses were readily available for the 612 hygienists who were licensed in Ontario in December 1974. With additional effort, addresses were also obtained for the majority of the 159 hygienists not holding current Ontario licenses. The questionnaires were mailed in January 1975; a follow-up letter was mailed in March.

Footnote

1. Some training of dental hygienists had also been conducted at the Canadian Armed Forces base at Camp Borden, Ontario. In this article, the term "Ontario graduates" is used to refer to University of Toronto graduates only. Four of the dental hygienists who responded to the survey received their training at Camp Borden.

Response Rate

Completed survey forms were obtained from 678 (88%) of the dental hygienists who had graduated and/or registered to practise in the province of Ontario prior to the end of 1974. Of the 622 hygienists who had graduated in Ontario, 91% returned completed survey forms; of the 149 graduates from outside the province who had registered to practise in Ontario, 77% returned completed forms. Of the 612 dental hygienists licensed in Ontario in December 1974, 94% completed and returned the survey forms.

Findings

Characteristics of Respondents

Of the 678 dental hygienists who responded to the survey, 83% were residing in Ontario and 17% were residing outside of the province. Almost one-half (46%) of the Ontario residents were living in and around Metropolitan Toronto. The second largest concentration of Ontario residents was in the Niagara-Hamilton region. Small numbers of hygienists were living and practising in every area of the province and in communities of all sizes.

The average age of the hygienists who responded to the survey was 28. Less than 5% of the respondents were 40 years of age or more; 29% were under 25. Three-quarters of the respondents were married, 23% were single, and only 2% indicated "other" status. Over three-fifths of the single respondents were under 25.

All but seven of the single respondents, and two of the respondents indicating "other" status, were employed in December 1974. While the percentage of hygienists employed declined after 25 years of age for all respondents, the decline was much sharper in the case of married respondents.

Over four-fifths (83%) of the hygienists who participated in the survey graduated from the University of Toronto. Of the remainder, approximately one-half graduated from other Canadian universities and Canadian Armed Forces schools, and one-half graduated from American institutions. Only three respondents graduated outside of Canada or the United States.

Only five of the dental hygienists who responded to the survey were men. One graduated from the University of Toronto and four were trained in the Canadian Armed Forces. All five male hygienists were employed in December 1974.

Working Careers

The survey was designed to obtain information which could help support or refute certain commonly held beliefs about the career patterns of dental hygienists. Some of these beliefs are: hygienists remain in the workforce only a short time; hygienists change jobs very frequently; most hygienists work only part time.

How long do hygienists remain in the workforce?

Three-quarters of the 678 survey respondents were employed in December 1974. Of the 564 respondents who were University of Toronto graduates, (representing 91% of all dental hygienists who ever graduated from that institution), three-quarters were employed. Of the 573 respondents who were licensed to practise in Ontario in December 1974, 80% were employed. And of the 561 respondents who were residing in Ontario in December 1974, (including 524 licensed and 37 unlicensed hygienists), 77% were employed.

Over one-half of the respondents had been employed continuously from graduation until December 1974; 88% had been employed 50% or more of the time since graduation. The percentage of time since graduation employed was related to age. Ninety percent of the respondents under 25 years of age had been employed continuously since graduation, compared to 53% of those between 25 and 29, and 25% of those 30 and over.

Of 304 respondents who had been unemployed, 64% had subsequently returned to work. Some of these later left the workforce again.

A total of 452 different periods of unemployment had been experienced by the respondents. Over one-third (36%) of these periods had lasted less than one year (as of December 1974); 20% had lasted between one and two years; 26% had lasted between two and five years; and 18% had lasted five years or more. Although the average duration of unemployed periods was three years, one-half of them had lasted less than one and one-half years.

Of the 170 respondents who were unemployed in December 1974, 58% indicated that they anticipated returning to work as dental hygienists. Of these, 60% anticipated returning to work within one year, and 97% anticipated returning to work within five years. On the other hand, 89% of the 99 respondents who planned to return to work indicated that they would prefer to work on a part-time basis.

Only 9% of the unemployed respondents indicated that they did not intend to return to work. The remaining 32% were uncertain.

The term "attrition rate" is applied to the rate of loss of personnel from the workforce. For this survey, attrition rate was defined as the change in the percentage of Ontario graduates who were employed from year to year following graduation. For example, 98% of Ontario graduates were employed one year following graduation; 95% were employed two years following graduation. Between one and two years following graduation, the attrition rate for Ontario graduates in dental hygiene was 3%.

Only 102 of the 554 respondents included in the calculation of rates of attrition had graduated more than ten years prior to 1974; 229 had graduated from five to 10 years prior to 1974; and 223 had graduated

less than five years prior to 1974. Analysis of changes in the rate of attrition over time is problematic since rates of attrition between 11 and 21 years following graduation were calculated on the basis of small samples. Moreover, any analysis of whether or not changes have occurred in the extent to which hygienists re-enter the workforce after more or less extended periods of unemployment is difficult, since many relatively recent graduates who may be planning to return to the workforce have not yet done so. Data from the early graduating classes suggested that a trend to return to work does not appear until at least ten years after graduation. On the other hand, it it did appear from the data that fewer of the more recent graduates were leaving the workforce soon after graduation. (See Table 1)

Figure 1 shows the percentage of Ontario graduates who were employed from one to 21 years following graduation. The steady decline in the percentage of graduates employed continued until 13 years after graduation when 44% were emloyed. After that, the percentage employed rose and then fluctuated, only once dropping below 44% (to 43%). In the first 13 years following graduation the largest drop in the percentage of graduates employed was 10% between four and five years after graduation. The average rate of attrition over the 13 years was 4.5% per year.

How long do hygienists remain in the workforce? Ninety-eight percent of the respondents to the Ontario survey were employed one year after graduation; 75% were employed five years after graduation; 51% were employed 10 years after graduation; and an average of 50% were employed between 11 and 21 years after graduation. Over one-half of the respondents had been employed continuously since graduation. Three-quarters of the respondents were employed in December 1974, and of those who were not employed in December 1974, 56% anticipated returning to work within five years.

How frequently do hygienists change jobs?

One-half of the respondents had held only one or two dental hygiene positions since graduation. The number of positions held was closely related to age: 45% of the respondents under 25 years of age had held only one position, compared to 18% of the respondents between 25 and 29, and 14% of the respondents 30 and over. One-quarter of the respondents 30 and over had held five positions or more, compared to 15% of the respondents between 25 and 29, and 2% of the respondents under 25 years of age. The average number of positions held per hygienist was 2.8.

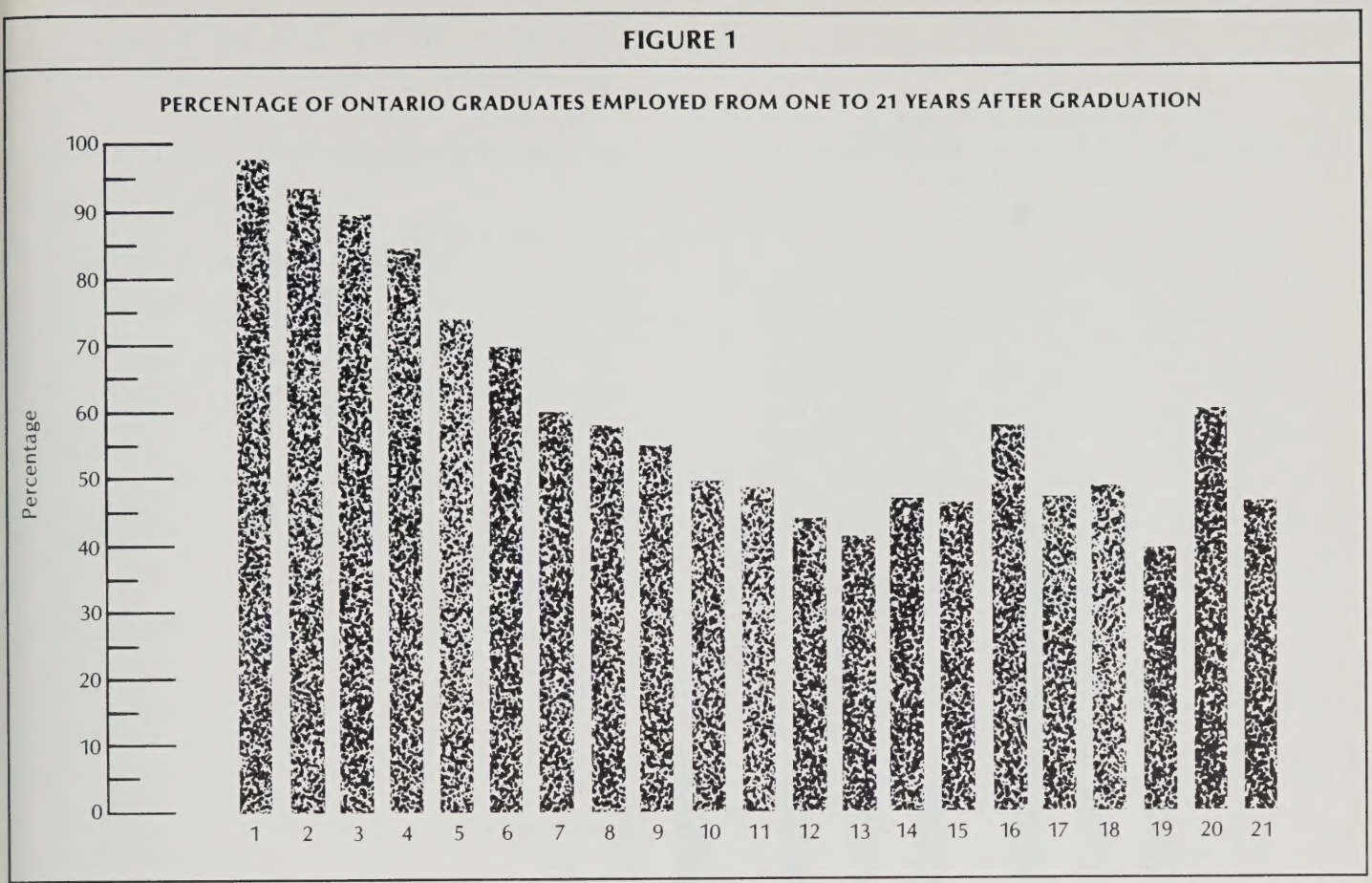
Ninety-eight respondents reported that they had held two or more (part-time) positions at the same time at some point in their working careers.

TABLE 1

NUMBER OF ONTARIO GRADUATES IN EACH GRADUATING CLASS EMPLOYED EACH YEAR AFTER GRADUATION

Year of Graduation	Number of Graduates	Years After Graduation																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1953	4	4	3	2	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2
1954	4	3	3	3	2	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	—
1955	6	5	5	5	4	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	—	
1956	7	7	6	5	4	4	3	3	4	4	5	3	3	3	4	5	5	5	5	—		
1957	5	3	3	4	3	3	3	3	4	4	3	3	3	3	3	2	3	3	—			
1958	13	12	12	10	7	4	6	4	5	4	3	5	6	6	7	8	9	—				
1959	7	7	5	5	4	4	3	3	3	2	1	1	1	2	3	2	—					
1960	5	5	4	4	3	3	2	2	3	3	3	4	4	3	3	—						
1961	4	4	4	4	4	4	4	4	4	3	3	3	3	3	—							
1962	16	15	15	11	9	7	8	9	7	7	10	10	10	—								
1963	31	30	29	29	28	24	21	20	20	17	17	19	—									
1964	39	39	39	37	38	33	35	26	26	26	24	—										
1965	43	39	39	36	33	29	30	30	26	30	—											
1966	36	36	35	35	34	32	28	25	24	—												
1967	42	42	40	36	37	36	33	31	—													
1968	36	36	35	35	35	31	30	—														
1969	33	33	32	31	30	29	—															
1970	35	35	34	34	35	—																
1971	45	45	45	45	—																	
1972	48	48	47	—																		
1973	45	45	—																			

FIGURE 1



Altogether the respondents had held a total of 1,905 different dental hygiene positions. Of these, 28% had lasted less than one year (as of December 1974); 30% had lasted between one and two years; 33%, between two and five years; and 9%, five years or more. The average duration of positions held was two years. One-half of the positions had lasted more than one and one-half years.

Do most hygienists only work part time?

Excluding paid holidays, an average of 47.2 weeks of work per year was required for the 1,905 dental hygiene positions held by the respondents. Most frequently, the positions involved, 48, 49, or 50 weeks of work per year.

Over one-half (53%) of the positions held by the respondents involved 35 or more hours of work per week; 15% involved 25 to 34 hours; 17%, 15 to 24 hours; and 15%, one to 14 hours. An average of 29.5 hours of work per week was required for the positions held.

Almost one-half of the dental hygiene positions held by the respondents were part-time, that is, positions involving less than 35 hours of work per week. Further research will be required to discover to what extent dental hygienists actually prefer to work part time, and to what extent they are forced to work part time because full-time positions are not available. It has already been noted that 98 respondents reported working at two or more (part-time) jobs concurrently at some point in their careers.

Changing Opportunities for Employment in Dental Hygiene

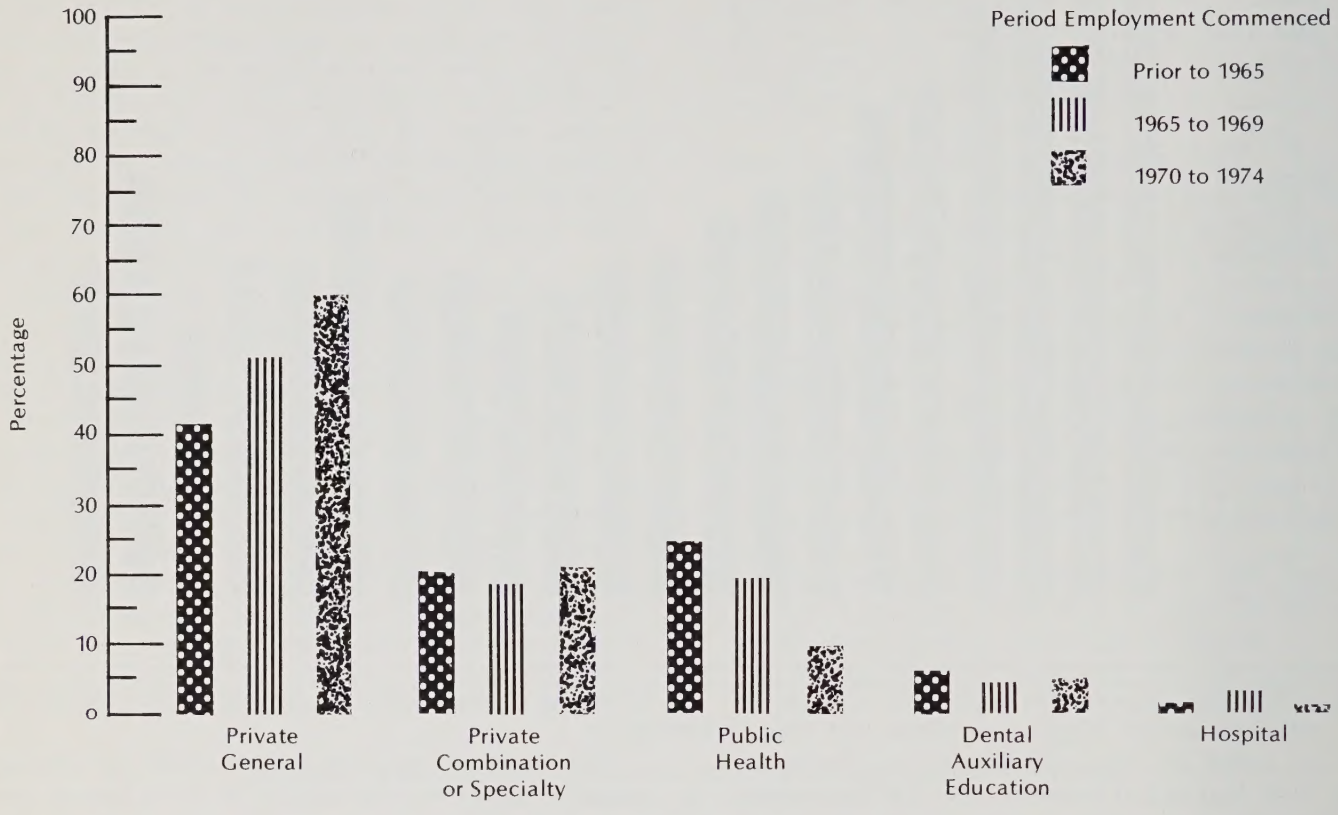
The largest number of opportunities for employment in dental hygiene appear to be in private general practice. Figure 2 shows some changes over time that have occurred in the percentage of dental hygiene positions devoted to different types of practice. Of the 1,905 positions held by the respondents, 14% commenced prior to 1965, 30% commenced between 1965 and 1969, and 56% commenced between 1970 and 1974. There has been a steady increase in the proportion of positions devoted to private general practice, and a decrease in the proportion of positions devoted to public health. The proportion of positions devoted to private combination or specialty practice, dental auxiliary education, and hospital practice have remained relatively unchanged.

Conclusion

The working careers of dental hygienists reflect a combination of hygienists' preferences and conditions in the dental employment market — dentists' attitudes, public demand for dental care, availability of positions, salaries, prescribed scope of activities, etc. While both preferences and market conditions have undoubtedly changed over the past twenty years, in Ontario even greater and more rapid changes can be expected in the future. More hygienists, who can perform a greater variety of duties, are now being trained annually, while at the same time even greater

FIGURE 2

CHANGES OVER TIME IN THE PERCENTAGE OF DENTAL HYGIENE POSITIONS DEVOTED TO DIFFERENT TYPES OF PRACTICE



numbers of preventive dental assistants are being trained to perform duties almost identical to those of the hygienists who participated in this survey. The effects of these changes are difficult to anticipate. Future research will be required to document the working careers of preventive dental assistants, and dental hygienists with expanded duties, and to compare them to those of the respondents. Changes in the employment patterns of dental hygienists, and the employment patterns of preventive dental assistants, must be taken into account by dental health manpower planners. Information regarding changes in the rate of leaving and the rate of returning to the workforce is particularly important for planning purposes.

The Ontario survey found an unexpectedly high rate of employment among dental hygienists. A tendency for younger graduates to remain in, and older graduates to return to the workforce was observed; and a majority of unemployed hygienists expressed a desire to return to work. The belief that hygienists change jobs extremely frequently was not supported by the data. However, the data did provide some support for the belief that many dental hygienists work only part time.

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Dental Programme,
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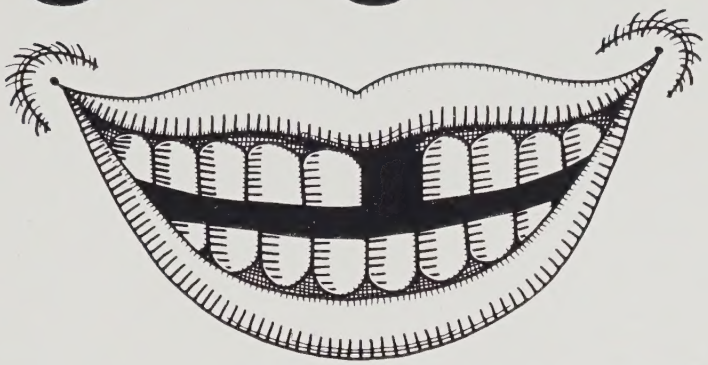

You know as well as anybody that gaps are no laughing matter. It's your business to know. At least about the consequences of gaps between teeth and gaps in a person's programme of oral hygiene 'at home' and regular professional care.

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THE CANADIAN DENTAL HYGIENIST
L'HYGIENISTE DENTAIRE DU CANADA

WINTER 1976 HIVER **VOLUME 10, No. 4**

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OUR FRONT COVER:
Design by Steve Hitzinger; photograph by Leyda Campbell.

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CONVENTION '76 HIGHLIGHTS

The thirteenth Annual Session of the Canadian Dental Hygienists' Association, *Collage '76*, was successfully presented in Edmonton, Alberta, September 12 to 15. The theme of the program was selected as a result of input from the membership and consisted of a collection of fairly specific clinical topics of interest. There was an excellent response of registrants to the program and the number of participants, 265, far exceeded expectations.

A piece of luck which added greatly to the convention was the presence of 22 Japanese dental hygienists who included *Collage '76* as part of a 13 day tour which then went on to the Rockies, Disneyland and Hawaii. They entertained us with some folk songs at Collage Capers, sounding like a professional choir, and also made orgami swans for everyone at Tuesday's luncheon. It was a real delight to have them with us.

As has been the pattern in recent years, the two days preceeding the convention were devoted to the Annual Meeting of the CDHA Board of Directors. The scientific sessions were led off Monday morning by Dr. S. Hoshizaki from whom we gained many insights into orthodontic techniques, information on appliances and orthodontic possibilities for adults. The afternoon brought Drs. R. Warren and M. Mickleborough with a presentation on the management of dental emergencies.

Tuesday morning, Dr. G. Fitzsimmons spoke on stress and the dental hygienist. As well as passing on information on the phenomena of stress and how we could better handle it for ourselves, he has developed a desensitization package for patients who are very anxious in the dental setting. Tuesday afternoon, the Constituents' Workshop provided an opportunity for dialogue between the CDHA Executive, Committee Chairmen and the general membership, followed by the joint table clinics with the CDNAA.

Wednesday morning consisted of three brief presentations. Teresa Bosse spoke on several specific nutritional topics including one on refined versus non-refined, a comparison involving flour and sugar. Then Barbara Gitzel gave a lively and entertaining insight into what A-V aids can do to vitalize and make more effective dental health education. Joan Conklin rounded out the morning with an outline of the ladder system approach to dental auxiliary education.

Collage '76 Convention Committee.

Participants register for activities.

Japanese dental hygienists at CDHA President's Reception.

Convention Chairmen with Dr. Paproski at Government Luncheon.

CDHA President Iris Gold with CDNAA President Kerris Franklin.

Some of the Japanese dental hygienists who attended the convention.

The social aspect of the convention also had its rewarding moments. Sunday night we were invited to join the dentists at their Opening Reception in the Chateau Lacombe where there was entertainment, food and dancing. Monday night there were tickets available to the CDA Klondike Barbecue and Dance. Tuesday night we had our very own party, Collage Capers, which featured everything from the presence of "Bigfoot" (a B.C. import) to the Japanese National Anthem to the wackiest fashion show in existence. There was no shortage of food, either from the Welcome Breakfast to the luncheons at the hotel (highlighted by favors made by the Alberta hygienists) to those yummy subs at Collage Capers and Wednesday's wind-up Restaurant Roulette offering a choice of four specialty restaurants to choose from.

On behalf of the Convention Committee and the CDHA, we would like to thank all those who attended and helped make everything such a success. Thanks to the excellent response, particularly from the Alberta members, we even made a profit which will be used to enhance future conventions. If you had a good time at this one, plan to attend again next year in Toronto!

Iris Gold, Jane Costigane, Carol Worobey.

Dorothy LeClaire, Brenda Walker, Pat Stewart, Molly Moore.

Pat Robertson, Peggy Guest, Annick Gregoire, Louise Brouillard.

Deanna Silver, Margaret Bailey, Charlene Hamill, Christine Robb.

CDHA BOARD TRANSACTIONS

The CDHA Board of Directors convened for the Thirteenth Annual Meeting in Edmonton, Alberta, September 11 and 12, 1976. Members of the Board present were: Iris Gold, President; Jane Costigane, President-elect; Carol Worobey, First Vice-President; Ailsa Wood, Treasurer; Deanna Silver, Nova Scotia Delegate; Pat Stewart, Prince Edward Island Delegate; Christine Robb, New Brunswick Delegate; Louise Brouillard, Quebec Delegate; Denise Lyons, Joan LeBreton, Pat Johnson, Debbie Lang, Ontario Delegates; Dorothy LeClair, Manitoba Delegate; Charlene Hamill, Saskatchewan Delegate; Brenda Walker, Molly Moore, Alberta Delegates; Peggy Guest, Pat Robertson, British Columbia Delegates. Absent were: Sherita Clark, Immediate Past President; Shereen Caisley, Secretary.

In addition, the following observers were in attendance: Karen Elliot, ADHA Secretary; Jo Gardner, CDHA Membership Chairman; Margaret Bailey, SDHA President; Annick Gregoire, Quebec; Sheila Darcy, Newfoundland; Linda Risdon, Marilyn Mabey, Convention '76 Co-Chairmen; and Marjorie Dimitri, CDHA Editor.

In the absence of the Secretary, Karen Elliot and Jo Gardner were appointed acting secretaries for the 1976 Annual Session. Marjorie Dimitri was appointed Speaker for the meeting. The lengthy agenda was discussed and the following summary highlights some of the action taken.

- A search committee will be struck to investigate alternatives open to the Association and make recommendations regarding the position of Executive Secretary.
- A workshop for members of the Executive Council, provincial delegates to the Board of Directors and committee chairmen will be held in conjunction with the 1977 Annual Session.
- Consideration is being given to scheduling the Annual Meeting of the CDHA Board of Directors at the same time every year (preferably late September or early October) at a central location such as Ottawa.
- Ailsa Wood, past treasurer, has been appointed as bookkeeper for the Association.
- The annual donation to the CFDE has been increased to $1.00 per active member as of June 1st of each year.
- Funds have been budgeted to provide grants for constituent associations upon approval of the Board of Directors. Applications for such grants must be submitted by December 31 of each year and must include a comprehensive outline of the proposed project as well as a financial statement.
- Funds will be made available to constituent associations in the form of loans upon approval of the Board of Directors. Applications for such loans must include an outline of the financial status and needs of the constituent association as well as the intended purpose of the loan.
- The proposed amendments to the By-laws of the Canadian Dental Hygienists' Association and the Alberta Dental Hygienists' Association were approved.
- Joan Voris has been appointed chairman of the 7th International Symposium on Dental Hygiene to be held in Vancouver, B.C. in 1979. The CDHA Annual Scientific Session that year will be held in conjunction with this meeting.
- The Nominations Slate was approved as amended (see CDHA Directory in this issue).
- The CDHA Community Dental Health Committee under the chairmanship of Sharon French will be producing, advertising and distributing lapel buttons with a message promoting good dental health for use during Dental Health Month 1977. These buttons are available to all members of the dental health team and an order form is included in this issue.

The complete agenda book and the minutes of the Annual Meeting are on file with members of the Executive Council, provincial delegates to the Board of Directors, and CDHA Committee Chairmen.

MALPRACTICE INSURANCE FOR DENTAL AUXILIARIES

A new broad form of malpractice insurance for dental auxiliaries was developed in 1974 and coverage was automatically extended to all employees of a dentist insured under the Canadian Dental Association Plan including dental hygienists, registered dental nurses/assistants and therapists. However, for those auxiliaries who may be working for a dentist or dentists who do not participate in the program, or who are employed in the dental public health field and not, technically, under the direct control and supervision of a dentist, an individual malpractice policy is recommended. The cost of such a policy is $12.00 per year and coverage may be obtained by sending your name and address along with a cheque to:

Canadian Dental Service Plans, Inc.
230 St. George Street
Toronto, Ontario M5R 2P1

NEW OTTAWA HEADQUARTERS FOR CDA

The Canadian Dental Association has now moved to their new headquarters in Ottawa. The address is:
1815 Alta Vista Drive,
Ottawa, Ontario K1G 3Y6.

DENTAL HEALTH MONTH 1977

April 1977 has been designated as Dental Health Month in Canada by the members of the CDA Sub-committee on Preventive Dentistry. The slogan is "I'M A BELIEVER — CLEAN TEETH ARE FOR KEEPS!"

Dental Health Month in Canada provides an opportunity for all members of the dental team to participate in special programs designed to draw the public's attention to the importance of dental health and the prevention of dental disease. All dental hygienists are encouraged to get involved by volunteering their services and actively participating in the various programs being planned. Contact the provincial campaign manager in your own province as listed below for dates, planning aids and projects with which you can help.

- Dr. W. Don Scramstead, Surrey, British Columbia. Tel. (604) 588-5491
- Dr. J.T. Boulton, Calgary, Alberta. Tel. (403) 283-5596
- Dr. Earle Freiden, Saskatoon, Saskatchewan. Tel. (306) 244-7927
- Dr. Wayne Wilfred, Winnipeg, Manitoba. Tel. (204) 334-4269
- Dr. Sam Green, Toronto, Ontario. Tel. (416) 626-4136
- Dr. Y. Dufresne, Trois-Rivieres, Quebec. Tel. (819) 375-1551
- Dr. G. Jalbert, Edmundston, New Brunswick. Tel. (506) 735-6198
- Dr. Geo. Clark, Halifax, Nova Scotia. Tel. (902) 429-0528
- Dr. Peter Curtis, St. John's, Newfoundland. Tel. (709) 726-2372

The members of the CDHA Community Dental Health Committee are listed below. They will co-ordinate the hygienists' efforts.

- Ms. Janet Basford, 9 — 1205 Emery Place, North Vancouver, British Columbia V7J 1R1
- Ms. Suzanne Luginbuhl, 308 — 160 East 19th Street, North Vancouver, British Columbia V7L 2Y8
- Ms. Jacqueline Bahl, 601 — 8830 85th Street, Edmonton, Alberta
- Ms. Keren Tadei, 101 — 2905 7th Street East, Saskatoon, Saskatchewan S7H 1B1
- Mrs. Marg Miller, 340 Overdale Street, Winnipeg, Manitoba R3J 2G4
- Mrs. Fern Bowler, Apt. 1103 — 8 Assiniboine Avenue, Downsview, Ontario M3J 1L4
- Mlle. Monique Goudreault, 3255 Saint Antoine, Westmount, Quebec
- Ms. Glenda Butt, 1516 — 1333 South Park, Halifax, Nova Scotia
- Ms. Dorothy Gaudet, 104 Tupper Drive, St. Eleanor, Prince Edward Island.

MARCH 1, 1977 NEW DEADLINE FOR CFDE TEACHER TRAINING FELLOWSHIPS

Applications are invited for teacher/researcher training fellowships, it has just been announced by the Canadian Fund for Dental Education.

The deadline for filing applications is March 1, 1977. Forms and additional information may be obtained from the dean's office in any Canadian dental school or the Canadian Fund for Dental Education, Suite 205, 44 Eglinton Avenue West, Toronto, Ontario M4R 1A1.

Conditions

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or a school of dental hygiene. Preference will be given to those applicants who will return to a **full-time** teaching/research position. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give a year's full-time service to a school for each year of full fellowship support or a year's half-time service for each year of half fellowship support.

Each fellowship is for one year of study at the graduate level. The fellowship may be renewed if progress is satisfactory.

Two types of fellowships are awarded annually:

(a) CFDE Full Fellowship
awarded to applicants who have either a legal or a strong decanal commitment for full-time employment after training.

(b) CFDE Half Fellowship
awarded to applicants who have either a legal or a strong decanal commitment for half-time employment after training or to applicants who are enrolled in a basic science program (which is only of monetary value if the student obtains university employment after training.)

The value of the fellowships will be determined annually by the Advisory Committee on Fellowship Selection and the Board of Trustees.

109 Dentists and 12 Hygienists Have Been Awarded Fellowships

Since the program started in 1964, the Fund has awarded 163 fellowships totalling $416,239 to 107 dentists and 17 fellowships totalling $22,378 to 12 dental hygienists to assist them in preparation for teaching careers in Canadian schools.

MALPRACTICE CASE REPORTED

In the August issue of the Journal of the American Dental Association, there is a report of a settlement totalling $46,500 for failure to diagnose and treat advancing periodontitis and failure to refer the patient to a periodontist. Following is the text of the report:

"California trial court approves $46,500 settlement of dental malpractice case — The dentist was charged with failure to diagnose and treat advancing periodontitis, and failure to refer the patient to a periodontist. The dentist's dental hygienist also was sued and charged with negligence in failing to detect periodontal pockets, and failing to inform the dentist of the patient's advancing periodontal disease. After both sides presented their evidence, a settlement was agreed upon — $45,000 in general damages, and $1,500 in special damages for fees paid to dentists."

CONSTITUTION REVISIONS

An up-to-date copy of the CDHA Constitution, By-laws and Code of Ethics is included as the centerfold of this journal. Please remove it for your personal file as it is the only copy you will be receiving.

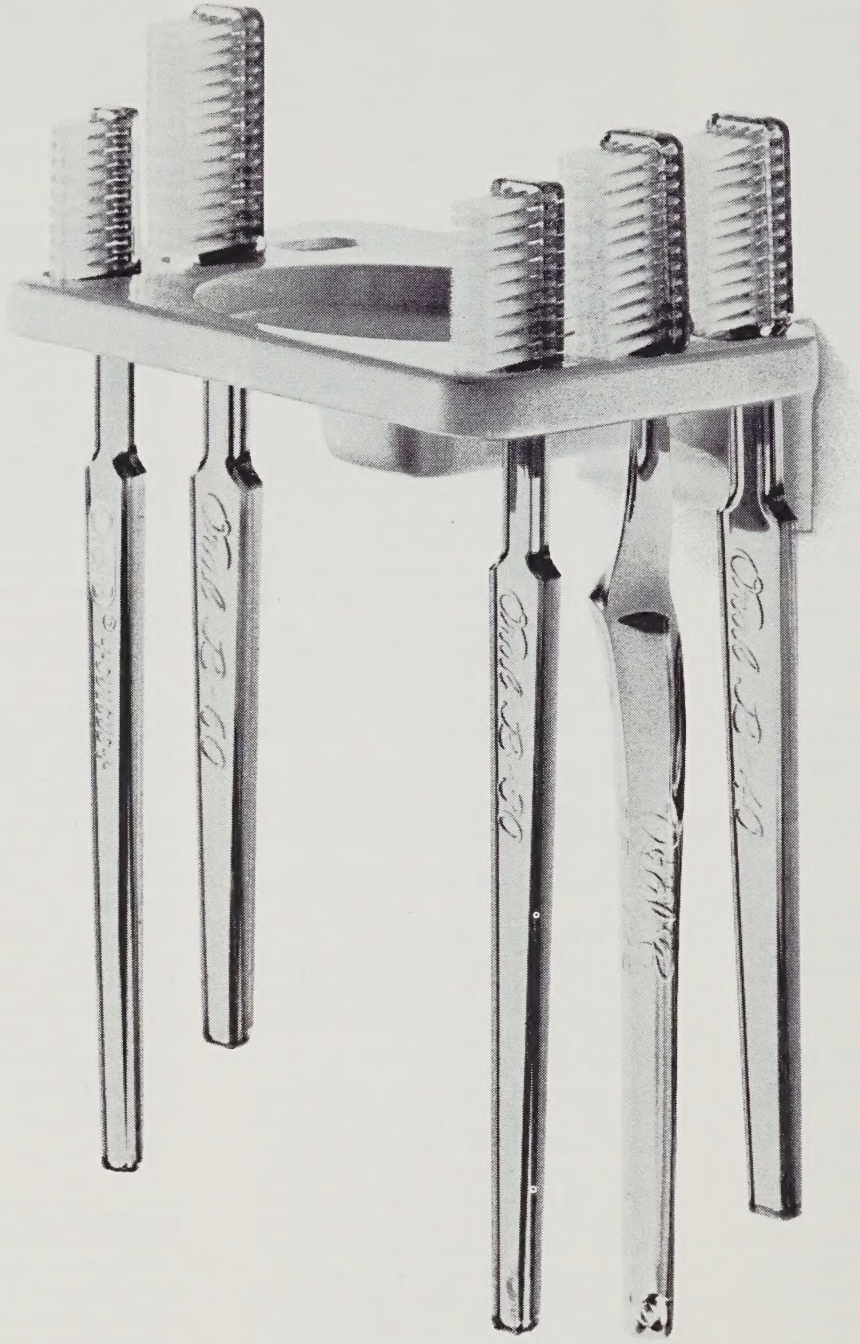
DENTISTRY ACT AMENDMENT PASSED IN B.C.

The Dentistry Amendment Act in B.C. has been passed by the provincial legislature and was given Royal Assent June 30th. One of the amendments provides for voting membership of Council to include "one person, selected as may be provided by Council, from each of the ancillary bodies to the profession of dentistry . . . " As a result of this, the BCDHA representative to the College of Dental Surgeons of B.C. will be a **voting member.** For the 1976-77 session, Joan Voris will serve in this capacity.

FEDERAL HUMOUR

"What we ought to do now, obviously, is suspend all activity until we can hold a plebiscite to select a panel that will appoint a commission authorized to hire a new team of experts to restudy the feasibility of compiling an index of all the committees that have in the past inventoried and catalogued the various studies aimed at finding out what happened to all the policies that were scrapped when new policies were decided on by somebody else. Once that's out of the way, I think we could go full steam ahead with some preliminary plans for a new study with federal funds of why nothing can be done right now."

Because you can't make house calls.



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PROGRESS IN PERIODONTICS

(PRESS RELEASE FROM THE 64TH ANNUAL WORLD DENTAL CONGRESS OF THE FEDERATION DENTAIRE INTERNATIONALE.)

One of the main themes of the scientific programme at the FDI meeting in Athens was "Progress in Periodontics". Clinical trials, different forms of treatment and causative factors were discussed during one of the sessions.

Professor R.D. Emslie (UK) pointed out that clinical trials could usefully be performed by general practitioners as the progress of periodontal diseases is generally slow and the chronic patients tend to be loyal and keep to the same dentist. The patient should always be informed, however. If different methods are to be used they should have been previously tested on animals or in vitro. A programme should be drawn up and followed throughout the investigation. Negative findings suggest that the result is influenced by too many variables.

Patients can act as their own controls by means of a "wash out period" or if "half-mouth" trials are carried out. The trials should be based on random selection and the results preferably judged by more than one person.

Retrospective studies can be performed by means of X-ray pictures. The long-cone technique will give a distinct radiograph and diminish the effects of the angle of the beam. When two bite-wing radiographs on each side are used, overlapping can be avoided and measurements carried out with only minor divergencies.

Surgical pocket therapy was discussed by Dr. S.P. Ramfjord (USA). He emphasized that the main problem was to make the root surface biologically acceptable to the surrounding tissues and then to prevent the plaque from spreading downwards. Thus surgical removal of pathological pockets has no advantage in comparison to curettage and can even destroy the reattachment and cause the patient esthetic problems. Curettage can be considered successful when further loss of tissue is prevented. Persistent pathological pockets without any bleeding can be looked upon merely as inactive, anatomical defects. All groups of teeth can be treated by curettage though the upper molars show somewhat poorer results than the other teeth. The age of the patient does not constitute a hindrance to any form of therapy.

A sophisticated method for treating intrabony defects was presented by Dr. B. Ellegaard (Denmark). As the technique is difficult, the cases have to be selected carefully and the patient should be able to maintain adequate oral hygiene.

These intrabony defects are characterized by a vertical loss of bone support and can be classified according to whether 1, 2 or 3 bony walls remain. When granulations have been removed and the tooth surface scaled, the intrabony defect is filled with bone grafts if 2 or 3 walls remain. The defect is then carefully covered with a 2 mm. thick free mucosal graft transplant to prevent the epithelium from growing down. The results are encouraging but the method is complicated and can only be used on localized vertical defects.

The effect of controlled oral hygiene in healing following periodontal surgery was demonstrated by Dr. J. Lindhe (Sweden). Emphasis was laid on the role of plaque in the development and progression of periodontal disease. Subgingival plaque causes inflammatory lesions in the pocket with a subsequent loss of connective tissue and produces intrabony defects. The treatment should comprise a careful elimination of the plaque and re-establishment of the gum contour so that the patient can keep the teeth clean. Instructions should be given prior to surgery and the postoperative plaque should be controlled and assessed. Mouth rinsing with chlorhexidin twice a day for two weeks following periodontal surgery and professional tooth cleaning every second week was recommended. Irrespective of the technique used, it has been proved that chlorhexidin and oral hygiene reduce plaque and the gingival index to near zero. If the plaque control is sufficient, healing can be predicted. If not, the process recurs.

Finally, the relationship between plaque and occlusal factors was elucidated by Dr. S. Nyman (Sweden). He emphasized that plaque is to be regarded as the causative factor of periodontal diseases and showed that treatment comprising removal of the plaque will lead to healing. Experimental studies have been performed on beagle dogs. It was demonstrated that enhanced occlusal trauma applied to a tooth resulted in an increased mobility and an enlarged periodontal space. Biopsies revealed, however, that trauma did not cause loss of attachment and no periodontal disease was present, provided the plaque was completely controlled.

To summarize the findings reported during this session:

Periodontal diseases *can* be cured even if anatomical defects cannot be completely eliminated.

Effective oral hygiene is the most important means of preventing progression of the disease and is an essential adjunct to surgical therapy.

N.B. The papers presented during this session will be published in full in the March and June, 1977 issues of the International Dental Journal.

DENTASCOPE 1977

Mark your calendar and come and view these exhibits of the latest products, equipment and services, sponsored by the Canadian Association of Dental Exhibitors from 6:00 - 10:00 p.m. on the following dates:

January 12, 13: Vancouver Holiday Inn, Harbourside.

January 19, 20: Edmonton Holiday Inn, Downtown.

November 8, 9: London Holiday Inn, City Centre.

November 15, 16: Montreal Queen Elizabeth in conjunction with Montreal Dental Club.

November 24: Toronto Royal York before Academy of General Dentistry.

6th INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

June 30 to July 2, 1977

Stockholm, Sweden

Hosted by the Swedish Dental Hygienists' Association

CALL FOR PAPERS

"Plaque Control" has been selected as the theme of the 6th International Symposium on Dental Hygiene and a call for papers has been issued by the Swedish Dental Hygienists' Association. Dental hygienists interested in participating in the program are asked to submit a summary of a 15 minute presentation relating to the theme for consideration by the Organizing Committee of the Symposium.

The deadline for application of free papers has been postponed to February 28, 1977. Submissions should be approximately 200 words in length and should be sent to:

Eve Runsten, Secretary General
6th International Symposium
on Dental Hygiene
c/o RESO Congress Service
S-105 24 STOCKHOLM
Sweden

If further information is requested about the Symposium or about the call for papers, please feel free to contact our Canadian representative to the International Liaison Committee:

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THE COST OF TRANQUILITY*

Canadians live in a world of constant social change and technological advance. Over the past quarter-century, many have come to accept the idea of chemical relief from the stresses and strains of modern living. Perhaps we have gone too far with our "pill for every ill" philosophy, and the time has come to examine our routine reliance on chemical remedies. Coping with everyday life without a "chemical crutch" is necessary and desirable for good health and mental maturity.

Evidence of our over-dependence on chemical cure-alls can be seen in the growing misuse of the class of drugs referred to as tranquilizers, or anxiety-relief agents.

What are Tranquilizers?

Tranquilizers are drugs which act on a person's emotional state, calming him without affecting the consciousness or thought processes. They are used extensively to treat emotional disorders characterized by excessive anxiety and tension. Tranquilizers concern us because they are subject to abuse and can cause both physical and psychological dependence when used for too long a period of time, or in doses exceeding the prescribed dosage.

How Do Tranquilizers Work?

In normal doses, they usually relieve abnormal tension and anxiety. Many tranquilizers also are used to treat convulsive disorders and withdrawal symptoms of alcohol dependence.

Common products in the tranquilizer market include diazepam (Valium, Vivol), chlordiazepoxide (Librium, Protensin, Solium, Via-Quil), meprobamate (Equanil, Miltown), oxazepam (Serax), and clorazepate (Tranxene).

Who Controls Tranquilizers?

In Canada the manufacture and distribution of tranquilizers are controlled by the Health Protection Branch of Health and Welfare Canada, through administration of the Food and Drugs Act and Regulations.

Tranquilizers (which come in a variety of dosage forms including tablets, capsules, syrups, and solutions for injection) may be sold only upon written or verbal prescription by a licenced physician.

Are There Side Effects?

As with any other drug, some individuals may experience undesirable side effects when using tranquilizers. Drowsiness is the most commonly reported side effect, and it may be especially dangerous to people who drive or operate machinery while using tranquilizers. Other possible adverse reactions include dizziness, depression, rashes and nausea.

Combining tranquilizers with other drugs may potentiate or interfere with the actions of the tranquilizers. Most tranquilizer poisonings involve excessive use of other drugs or alcohol. Because it has been well documented that an individual's tolerance for alcohol decreases when a tranquilizer is taken concurrently, persons taking tranquilizers should never consume alcohol at the same time.

Tranquilizers and Women of Childbearing Age

Tranquilizers should not be used during pregnancy, particularly during the first three months, unless in the opinion of your physician the potential benefits outweigh the possible hazards to the fetus. If you are using a tranquilizer and become or intend to become pregnant, consult your physician.

Hazards of Tranquilizer Misuse

The rising popularity of tranquilizers is disturbing. Since their introduction in the 1950's, these products have become the most widely prescribed group of drugs in Canada today, as well as a leading cause of poisoning (as reported to Canada's Poison Control Centres). Statistics show that enough tranquilizers are sold in this country every year to keep over a quarter of a million Canadians in a constant state of "tranquility".

Since the use of tranquilizers is so prevalent, it's important for consumers to be aware of the hazards involved with tranquilizer misuse. The most common hazard is psychological dependence. It is present when you feel you need tranquilizers just to get through the day. Relying on tranquilizers as an all-purpose answer to everyday problems is a dangerous habit to get into.

A less common though more serious problem is **physical dependence**. With the regular use of prescribed tranquilizers, your body develops a tolerance, so that you may be tempted to increase the daily dosage to maintain the desired effect. **Never exceed the dosage prescribed by your physician.**

What's the Solution to Tranquilizer Misuse?

Let's take steps to cut down on tranquilizer misuse by reducing reliance on drugs. Most of life's prob-problems can be solved without resorting to chemical intervention. Stop and think about it.

What's Your Drug Dependency Potential?

Check your attitudes towards drug use in general and tranquilizers in particular by answering the following questions:

- Do I reach for a tranquilizer every time anxiety, nervousness, or tension appear?
- Do I ignore instructions about the maximum number of tablets or capsules that may be taken at any one time, or during one day, and often exceed this recommended limit?
- Do I pressure my physician for a tranquilizer prescription to relieve nervous tension, insomnia, or other indefinite symptoms when I know that my problems are personal rather than medical?
- Do I request renewal of my prescription beyond the period for which my physician strictly recommended I use the tranquilizer?
- Is my medicine shelf a mini-drugstore of prescriptions or over-the-counter medications for "nerves", sleeplessness, tension, aches and pains?
- Do I feel cheated if I leave my physician's office without a prescription after each and every visit?

If the answer is "yes" to most of these questions, you may have crossed the line from occasional, justified use of drugs to excessive reliance on chemical crutches.

Watch out for the danger signs and avoid the pitfalls of overuse and misuse of drugs. Remember, the cost of chemically-induced tranquility can be high.

*Dispatch, Educational Services
Health and Welfare Canada

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CONSTITUTION

OF THE
CANADIAN DENTAL HYGIENISTS' ASSOCIATION/
L'ASSOCIATION CANADIENNE DES HYGIENISTES' DENTAIRES

ARTICLE I
Name

The name of this organization shall be "The Canadian Dental Hygienists' Association / L'Association Canadienne des Hygienistes' Dentaires", hereinafter referred to as "The Association" or "This Association".

ARTICLE II
Objectives

The objectives of the Association shall be to cultivate, promote and sustain the art and science of Dental Hygiene, to maintain the honour and interests of the Dental Hygiene profession, to represent and safeguard the common interest of the members of the Dental Hygiene profession and to contribute toward the improvement of the health of the public.

ARTICLE III
Organization

Section 1. Organization:
This Association is a non-profit organization. None of its net income shall inure to the financial benefit of an individual or individuals. If at any time this Association shall be dissolved, no part of the funds or property shall be distributed to or among its members. After the payment of all indebtedness of the Association, the supplies, funds and properties shall at the discretion of the then governing body, be transferred to another organization with objectives similar to those of the Association, or otherwise used to advance the objectives of the Association.

Section 2. Central Office:
The central office shall be located at whatever address the majority vote of the Board of Directors designates.

ARTICLE IV
Government

Section 1. Legislative Body:
The legislative and governing body of this Association shall be the Board of Directors, which may be referred to as "The Board" or "This Board" as provided in the By-laws.

Section 2. Administrative Body:
The administrative body of this Association shall be the Executive Council as provided in the By-laws.

ARTICLE V
Code of Ethics

The Code of Ethics of The Canadian Dental Hygienists' Association / L'Association Canadienne des Hygienistes' Dentaires, shall govern the professional conduct of the members of the Association.

ARTICLE VI
Amendments

This Constitution may be amended by a three-quarters (¾) affirmative vote of the members of the Board of Directors, present and voting, provided that the proposed amendments shall have been presented in writing at a previous session of the Board of Directors or a copy of the proposed amendments shall have been mailed by the Secretary of the Association to each member of the Board of Directors four months prior to a session of the Board.

ARTICLE VII
Supremacy Clause

When the Constitution and By-laws of The Canadian Dental Hygienists' Association / L'Association Canadienne des Hygienistes' Dentaires, are in conflict with that of any constituent association or component society, the former shall prevail.

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BY-LAWS

OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION L'ASSOCIATION CANADIENNE DES HYGIENISTES' DENTAIRES

CHAPTER I
Membership

Section 1. Classification:
The members of this Association shall be classified as follows:

A. Active Members
B. Life Members
C. Associate Members
D. Junior Members
E. Honorary Members
F. Allied Members

Section 2. Qualifications:

A. Active Member
Any person who is legally eligible to practise in any of the Provinces of Canada, and who is a member in good standing of any one of the constituent associations upon payment of dues shall be classified as an active member.

B. Life Member
Any active member who has made an outstanding contribution to dental hygiene and to this Association and has been recommended under these By-laws and approved by the Board of Directors, shall be classified as a life member.

C. Associate Member
1. Any person who is legally eligible to practise as a dental hygienist in any of the Provinces of Canada and who lives where no constituent association exists, may make application to the Board of Directors through the Membership Chairman for associate membership. Upon approval of the Board of Directors and upon payment of dues, he shall be classified as an associate member.
2. Any dental hygienist practising in any country other than Canada may make application for membership to the Board of Directors through the Membership Chairman of this Association. On approval of the Board of Directors and upon payment of dues, the dental hygienist shall be classified as an associate member.

D. Junior Member
A student of a school of dental hy giene who is a junior member in good standing of the constituent association of the province in which the school is located upon payment of dues shall be classified as a junior member.

E. Honorary Member
Any person, who is not a dental hygienist, who has made meritorious contributions to the art and science of dental hygiene or who has rendered distinguished service in the field of dental hygiene and who has been recommended under these By-laws and approved by the Board of Directors shall be classified as an honorary member.

F. Allied Member
An individual who is not a dental hygienist, but who supports the goals and objectives of the Association and has been recommended under these By-laws shall be classified as an allied member upon approval of the Board of Directors.

Section 3. In Good Standing:
Any member of this Association who is not under suspension or expulsion because of being found guilty of violating the statutes under which Dental Hygiene is practiced in the Province or Country in which the Dental Hygienist practices, or of violation of the Constitution and/or By-laws and/or Code of Ethics and whose dues for the current year shall have been paid, shall be considered a member in good standing of this Association. Any member of this Association who transfers from one constituent association to another must so inform the Membership Chairman of this Association.

Section 4. Termination of Membership:

A. Any member in good standing with this Association may withdraw in good standing from this Association by delivering a written request to the Board of Directors through the Membership Chairman of this Association.

B. Any member who fails to pay fees within the first thirty (30) days after the due date shall automatically forfeit the membership in this Association.

Section 5. Reinstatment of Membership:

A. Any member who has resigned in good standing may be reinstated upon payment of the fees for the current fiscal year.

B. Any member who for any reason has forfeited membership in this Association may be reinstated on application to the Membership Chairman of this Association and on approval of the Board of Directors and on the payment of the current membership fee plus a reinstatement fee set by the Board of Directors.

Section 6. Privileges:

A. Active and Life Members
An active or life member in good standing shall have the privilege of voting, shall be eligible for election or appointment to any office or committee of the Association, shall be entitled to receive the annual certificate of membership, any official publications of the Association, admission to scientific sessions of the Association on payment of applicable registration fees and enjoy all other services as are provided by the Association for the benefit of its members.

B. Associate, Junior, Honorary and Allied Members
An associate, junior, honorary or allied member in good standing shall be entitled to receive the annual certificate of membership, any official publications of the Association, admission to scientific sessions of this Association on payment of applicable registration fees and enjoy all other services as are provided by the Association for the benefit of its members. These members do not have the privilege of voting or holding office, except as otherwise provided for in these By-laws.

CHAPTER II
Finances and Dues

Section 1. Fiscal Year:
The fiscal year of this Association shall begin on May 1st and end on April 30th of each calendar year.

Section 2. General Fund:
The General Fund shall consist of all monies received by other than those specifically allotted to other funds as may be provided by the By-laws. This fund shall be used for defraying all expenses incurred by this Association not otherwise provided for in the By-laws.

Section 3. Membership Dues:

A. Active, Associate, Junior and Allied Members
The annual dues for active, associate, junior and allied members shall be determined at the annual session of the Board of Directors. Annual dues are due and payable January 1st of each year.

B. Life and Honorary Members
Life and honorary members shall be exempt from payment of dues to this Association.

Section 4. Collection of Dues:
Wherever applicable, the dues of membership shall be collected by the respective constituent association and forwarded immediately to the Membership Chairman of this Association. The Membership Chairman of this Association will in turn forward the dues for membership to the Treasurer of this Association within ten days.

Section 5. Consideration of the Budget:
The annual budget for the ensuing session shall be submitted to the Board of Directors for approval at the annual meeting.

Section 6. Appropriation of Funds:
Any recommendation proposing an appropriation of funds of this Association not included in the annual budget, shall be referred to the Board of Directors for approval.

Section 7. Audit:
The Board of Directors shall at each annual meeting approve an Auditor for the forthcoming year to audit the accounts of the Association. The remuneration of the Auditor shall be approved by the Board of Directors. The books and accounts of the Association shall be open upon formal request to any member of the Association.

CHAPTER III
Constituent Associations

Section 1. Organizations:

A. The following are the founding constituent associations of this Association: Ontario Dental Hygienists' Association; Alberta Dental Hygienists' Association; Nova Scotia Dental Hygienists' Association.

B. A constituent association may be organized and chartered, subject to the approval of the Board of Directors, in any Province of Canada. No association shall be organized in a Province where a constituent association already exists.

Section 2. Name:
Each constituent association shall take its name from the Province within which it is organized.

Section 3. Constitution and By-laws:
Each constituent association shall adopt and maintain a Constitution and By-laws which shall not be in conflict with the Constitution and By-laws of this Association and shall file a copy thereof and any changes thereafter made with the Secretary and the Constitution Chairman of this Association.

Section 4. Privilege of Representation:
The constituent association shall elect, by and from its fully privileged members of this Association, a delegate and an alternate delegate to the Board of Directors of this Association. They shall be entitled to elect an additional delegate and alternate delegate for each one hundred (100) or major portion thereof of its active and life members after the first hundred, provided that no constituent association shall hold the majority of delegates on the Board of Directors. When a constituent delegate to the Board of Directors is elected to an office of this Association, the constituent association may elect a new delegate or alternate delegate as the case may be.

Section 5. Membership:

A. Voting membership of each constituent association shall be limited to persons who are legally eligible to practise dental hygiene or who are residing within the provincial jurisdiction of the constituent.

B. Application for membership in this Association shall be made through the constituent where the member is residing or is registered and/or licensed to practise.

C. A member who qualifies for membership in more than one constituent shall be recorded on the membership roll of this Association through only one constituent.

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Section 6. Powers and Duties:

A. A constituent association shall have the privilege to recommend members of their association for membership in this Association within the limits imposed by Section 5 of this chapter. The membership chairman of the constituent association shall ascertain and inform the Board of Directors, through the Membership Chairman of this Association, that all requirements of the applicant for membership in this Association have been fulfilled.

B. It shall be the duty of the constituent association to collect and forward the membership dues for this Association to the Membership Chairman of this Association.

C. A constituent association shall have the power to adopt laws, rules and regulations to govern and discipline its members and to provide for its financial support, provided there is no violation therein of this Constitution and By-laws.

D. A constituent association shall have the power to organize its members into component societies.

E. The classifications and qualifications of membership shall be designated in the Constitution and/or By-laws of the constituent association.

F. Officers shall be designated in the Constitution and/or By-laws of the constituent association.

G. Sessions: A constituent association shall hold business sessions at least once in each fiscal year.

H. Each constituent association shall file with the Secretary of this Association the names of the delegates and alternate delegates at least sixty (60) days prior to the annual session of the Board of Directors for certification. Save as herein provided, each delegate and alternate delegate holds office until a successor is named by the constituent association.

J. A constituent association may propose to the Board of Directors one name a year for life and one for honorary membership and any number for allied memberships in this Association.

CHAPTER IV
Board of Directors

Section 1. Composition:

The Board of Directors shall be composed of the Executive Council and the official delegates from each constituent association, all with full voting powers, exception under Section 3 of this chapter. Where an official delegate is absent the alternate delegate shall have powers and duties of the official delegate. The Chairman of the Board of Directors shall be either the President of this Association or the Speaker as described in Chapter VIII, Section 3 of the By-laws. In the absence of the President, the President-elect may act as chairman with full power. The Secretary of the Association shall be the acting and recording secretary of the Board of Directors.

Section 2. Balance of Power:

No one constituent association shall hold the majority of voting power.

Section 3. Voting Power:

The Executive Council and the elected directors shall hold full voting power at any session providing a balance of power is maintained. If however the balance of power is not maintained, the Secretary, Treasurer, First Vice-President, President-elect and Immediate Past President shall become ex-officio members of the Board of Directors and when necessary shall vote in this order.

Section 4. Annual Session:

The Board of Directors shall convene at least once in each calendar year at the time of, and in the same location as the annual scientific session. The meeting so convened is called "The Annual Session" for the purpose of these By-laws.

Section 5. Other Sessions:

The President of the Association may call other meetings of the Board of Directors to consider only such business as shall be mentioned in the notice calling the meeting. A meeting may be called by a written majority request of the voting members of the Board of Directors to consider business described in the request. The time and place of the meeting shall be determined by the President of this Association, provided the time selected shall not be more than forty-five (45) days after the receipt of the request. All members of the Board of Directors must have at least 15 days' notice of each meeting.

Section 6. Resolution Signed by the Board of Directors:
A resolution signed by the Board of Directors having privilege to vote, shall be valid and binding as if it has been passed at a meeting of the Board of Directors duly called and constituted.

Section 7. Quorum:
All members having been duly notified, two-thirds of the voting members of the Board of Directors shall constitute a quorum.

Section 8. Powers:
The Board of Directors shall,

A. Be the supreme legislative and authoritative body of this Association;

B. Determine the policies and rules which shall govern this Association in all its activities;

C. Have the power subject to Article VI of the Constitution and Chapter XII of the By-laws, to enact, amend or repeal the Constitution, By-laws and Code of Ethics of this Association;

D. Have the power to approve life, honorary and allied members;

E. Have the power to create special committees of the Association;

F. Have the power to direct the President to call a session of the Board, or direct the President to obtain a signed resolution;

G. Have the power to appropriate funds not included in the annual budget;

H. Have the power to approve, reject, or revoke all applications for membership in, or members of, this Association that may be in conflict with the Constitution and By-laws of this Association;

I. Have the power to delegate authority to the Executive Council and exercise all such powers as are not by this Constitution and By-laws, required to be exercised by other members, councils, or committees.

Section 9. Duties:
It shall be the duty of the Board of Directors,

A. To elect the elective officers;

B. To elect the chairmen and members of the standing committees to this Association;

C. To ensure the positions of editor and archivist are filled at all times;

D. To adopt the annual budget for the ensuing fiscal year;

E. To report to their constituent association, the proceedings and actions taken at the annual session and any other session of this Association;

F. To approve an auditor for the forthcoming year at the annual session;

G. To set the place and dates for the following annual session and scientific session.

CHAPTER V
Executive Council

Section 1. Composition:
The Executive Council shall consist of the President, President-Elect, First Vice-President, Immediate Past President, Secretary and Treasurer.
The Executive Council shall become members of the Board of Directors with voting powers as prescribed in the By-laws, Chapter IV, Section 3.

The President shall preside at all meetings of the Executive Council. In the absence of the President, the President-elect shall preside with full powers.

Section 2. Powers:
The Executive Council shall,

A. Be the administrative body of this Association, vested with full power to conduct all business of the Association, subject to the Constitution, By-laws and mandates of the Board of Directors;

B. Have the power to establish interim policies that are essential to the management of this Association when the Board of Directors is not in session. Such policies must be presented for ratification at the next session of the Board;

C. Have the power to direct the President to call a session of the Board of Directors, upon a three-quarter (¾) affirmative vote of the Council members;

D. Have the power to nominate one life, one honorary and any number of allied members per year for consideration by the Board of Directors;

E. Have the power to appoint representatives on behalf of the Association.

Section 3. Duties:
It shall be the duty of the Executive Council,

A. To prepare a budget for carrying on the activities of the Association for the forthcoming year;

B. To have all accounts of the Association audited at least once annually;

C. To prepare the agenda for the Board of Directors' meetings;

D. To approve arrangements made by the convention committee for the annual scientific session at the time and place designated by these By-laws;

E. To appoint, where possible, a local committee to assist the convention committee with arrangements for the annual scientific session;

F. To provide where necessary, and preside at meetings of the membership at large for the purpose of presenting resolutions to the Board of Directors;

G. To appoint the chairmen and membership of Committees of the Executive Council;

H. To submit an annual report of the activities of the Executive Council to the Board of Directors;

I. To perform such other duties as may be prescribed in the By-laws.

Section 4. Installation:
The elective officers of this Association shall be installed at the close of each annual meeting of this Association.

The President-elect shall be installed as President without other election following the expired term of the President.

The First Vice-President shall be installed as President-elect without other election following the expired term of the President-elect.

Section 5. Tenure of Office:
The officers shall serve in their elected, designated or ex-officio capacity for the term of one (1) year or until their successors are installed.

Section 6. Vacancies:

A. In the event the office of President becomes vacant, the President-elect shall become President for the unexpired term and shall also serve as President during the term for which elected.

B. In the event that the office of President-elect becomes vacant, the First Vice-President will become President-elect for the unexpired term and shall also serve as President-elect during the term for which elected.

C. In the event the office of First Vice-President becomes vacant, the office of President-elect for the ensuing year shall be filled immediately by mail ballot to the Board of Directors. In the event that other executive offices become vacant after installation, the President shall appoint a member to serve the unexpired term of such office.

Section 7. Quorum:
A majority of the voting members of the Executive Council shall constitute a quorum.

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CHAPTER VI
Elective Officers

Section 1. Eligibility:

A. Only active or life members in good standing of this Association shall be eligible to stand for and serve as officers of this Association.

B. Previous officers of this Association who are active or life members in good standing may be eligible to stand for and serve as officers of this Association.

C. If an elective officer was an active member at the time of his election, and becomes an associate member due to a change of residency within Canada, then he shall be allowed to complete his term of office.

Section 2. Elective Officers:
The elective officers shall be First Vice-President, Secretary and Treasurer. The President may be elected as provided for in the By-laws. The election of officers by the Board of Directors shall take place at the Annual Session of the Board.

Section 3. Nomination and Election:

A. The Nomination Committee shall present a list of proposed candidates with necessary information, to the Board of Directors.

B. Additional nominations with necessary information and supported by three active members in good standing, may be made from the floor.

C. The President-elect shall wherever possible, be nominated and elected from the Province where the annual scientific session will be held in his year of Presidency.

D. Voting shall be by ballot and a majority of the votes cast shall be necessary for election.

E. In case no candidate receives a majority of the votes cast on the first ballot, the candidate receiving the least number of votes shall be dropped and a new ballot shall be taken. This procedure shall be continued until a candidate receives a majority of all votes cast. This candidate shall be declared elected.

Section 4. Duties of Officers:

A. President:
It shall be the duty of the President

1. To preside at all meetings of the Association, Board of Directors and Executive Council unless otherwise provided for in the By-laws;
2. To serve as an official representative of this Association for the purpose of advancing the objectives and policies of this Association;
3. To serve as an ex-officio member of all Committees of this Association;
4. To submit a written report of the activities of the Executive Council to the Board of Directors at the annual session;
5. To deliver a presidential address at the annual session;
6. To submit a written report of the activities carried out during the term of office, to the Board of Directors;
7. To appoint special committees when considered necessary;
8. To call special sessions of the Board of Directors and/or Executive Council as provided in these By-laws;
9. To make interim appointments in case of vacancies in Committees;
10. To perform such other duties as may be provided in these By-laws.

B. President-Elect:
It shall be the duty of the President-elect

1. To assist the President, as requested, in the performance of the duties of the President;
2. To serve as a member of the Board of Directors as provided for in these By-laws;
3. To fill the unexpired term of the President in the event such vacancy occurs.
4. To act as Chairman of the Nominations Committee;
5. To succeed to the office of President without election at the next annual session of the Board of Directors following the expired term of the President.

C. First Vice-President:
It shall be the duty of the First Vice-President

1. To serve as a member of the Board of Directors as provided for in these By-laws;
2. To fill the unexpired term of the President-elect in the event such vacancy occurs;
3. To succeed to the office of President-elect at the next annual session of the Board of Directors following the expired term of the President-elect;
4. To act as Chairman of the Constitution Committee.

D. Secretary:
It shall be the duty of the Secretary

1. To keep the records and minutes;
2. To act as Secretary at all sessions of this Association, Executive Council or Board of Directors;
3. To co-ordinate the activities of all committees and to systematize the preparation of all reports of such committees, and to submit copies of these reports to all delegates at least fourteen (14) days before the annual session of the Board of Directors;
4. To notify members of committees of their appointments and of their duties;
5. To request an annual report from each Committee Chairman thirty (30) days before the annual session of the Board of Directors;
6. To send written notice of the time and place of each session of the Board, and the proposed agenda to be considered, to every delegate not less than fourteen (14) days before any such session;
7. To supervise the certification of delegates and alternate delegates to the Board of Directors;
8. To submit a summary of the proceedings of any session of the Board of Directors, to each delegate within thirty (30) days following such session;
9. To perform all such other duties customary to the office or provided for in the By-laws.

E. Treasurer:

It shall be the duty of the Treasurer

1. To serve as custodian of all monies of this Association and to keep full and accurate accounts of all receipts and disbursements;
2. To present the Treasurer's report to the Board of Directors;
3. To present a budget for the next fiscal year at the annual session of the Board;
4. To perform such other duties as may be designated by the Executive Council, Board of Directors or these By-laws.

F. Immediate Past President:

It shall be the duty of the Immediate Past President

1. To serve as a member of the Executive Council and the Board of Directors;
2. To serve as an ex-officio member of the Nominations Committee;
3. To perform such other duties as may be designated by the Executive Council, Board of Directors or these By-laws.

CHAPTER VII
Committees

Section 1. The objective of the standing and special committees, except as otherwise provided, shall be the initiation and carrying out of projects related to their respective fields.

Section 2. The Standing Committees of this Association shall be:
A. Constitution Committee
B. Nomination Committee
C. Membership Committee
D. Editorial Committee
E. Manpower and Utilization Committee
F. Community Dental Health Committee

Section 3. Number:
Each standing committee shall be composed of a chairman, one representative of each constituent association, and such other persons as are provided for in these By-laws.

Section 4. Eligibility:
All members of committees must be fully privileged members in good standing of this Association. If, however, a committee chairman was an active member at the time of his election, and becomes an associate member due to a change of residency within Canada, then he shall be allowed to complete his term of office.

Section 5. Chairman:
A chairman of each Committee shall be elected annually by the Board of Directors.

Section 6. Vacancy:
In the event of a vacancy in the membership of any Committee, the President shall make an interim appointment.

Section 7. Nomination Procedure:
All members of Committees shall be placed in nomination for office by the Chairman of the Nomination Committee at the annual session of the Board of Directors, with the nominees for Chairman named in each case unless otherwise provided for in these By-laws. Other nominations may be made by members of the Board of Directors.

Section 8. General Rules:
A. The Chairman of each Committee will present a report to the Secretary of this Association at least thirty (30) days before the annual session of the Board of Directors.

B. The Chairman shall be responsible for the presentation of a budget for the ensuing fiscal year upon request of the Executive Council.

C. Any activities contemplated which are not covered within the terms of reference must be sanctioned by the Board of Directors before action is taken thereon.

D. When a new chairman is designated, the former chairman shall turn over to the Treasurer of the Association any funds on hand, and shall send all pertinent subject matter to the new chairman immediately.

E. A majority of the Committee members shall constitute a quorum.

Section 9. Terms of Reference for Standing Committees:
The terms of reference for Standing Committees shall be those specified by the Board of Directors and may be altered at any time.

Section 10. Special Committees:
Special Committees shall be created and appointed as prescribed in the By-laws. Each Committee shall be composed of not less than three (3) members.

CHAPTER VIII
Appointive Officers

Section 1. Archivist:
The archivist's duties shall be:
A. To manage current records no longer required in the files of the officers and committee chairmen of this Association;
B. To be custodian of all documents and records of this Association that are not of a current nature.

Section 2. Editor:
The Editor shall be the editor of the Journal of this Association.

Section 3. Speaker:
The Speaker shall be the Chairman of the Annual Session of the Board of Directors and other meetings of the Board as requested by the Executive Council.

Section 4. Executive Secretary:
The Executive Secretary shall be appointed by the Board of Directors to fulfill such duties as are designated by the Board.

CHAPTER IX
Scientific Sessions

Section 1. Objectives:
Scientific sessions of this Association are assemblies of its members for the presentation and discussion of subjects pertaining to the art and science of Dental Hygiene.

Section 2. Time and Place:
One scientific session shall be held annually at the time of, and in the same city as the Canadian Dental Association Convention.

Section 3. Management and General Arrangements:
The Executive Council shall provide for the management of, and make all arrangements for, each scientific session as may be designated in these By-laws.

Section 4. Registration and Admission:
Admission to all sessions and clinics of the Association shall be limited to those persons who have received the official badge of the Association. Non-member dental hygienists may be charged a special registration fee, at the discretion of the Executive Council, for the privilege of attending the scientific session.

CHAPTER X
Indemnification of Association Members

No member of this Association shall, merely by reason of such membership, be or become liable for any of its debts or obligations, unless such debts or obligations are incurred through negligence or willful misconduct on the part of the member.

CHAPTER XI
Rules of Order

The rules contained in the most recent edition of "Robert's Rules of Order" shall govern all sessions of this Association.

CHAPTER XII
Amendments

These By-laws and Code of Ethics may be amended by a two-thirds (⅔) affirmative vote of the members of the Board of Directors present and voting at a session. A copy of such proposed amendments shall be mailed by the Secretary to each member of the Board of Directors two (2) months prior to the session of the Board at which action upon such amendments is proposed to be taken.

Adopted June 13th, 1966.

Amended July 9th, 1969
May 1st, 1971
June 7th, 1972
October, 1974
September 11, 1976

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CODE OF ETHICS

OF THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION L'ASSOCIATION CANADIENNE DES HYGIENISTES' DENTAIRES

PREAMBLE

Ethics deals with the ideal of human character and the moral duties and obligations of the individuals as they bear upon human relationships of one person with another. In setting out the ethical rules and laws of the profession of dental hygiene, we have a Code of Ethics. This Code of Ethics is a broad statement of principles dealing with the moral duties and obligations of the dental hygienist toward her patients, professional colleagues and to society. The Code of Ethics does not serve as a final set of regulations to meet all eventualities. Final judgment must come from what is excellence as it pertains to practice and conduct and the ability to know what is right and proper and the willingness to follow such a course. All members of the dental hygiene profession should re-examine their attitudes and actions frequently, so that they may continue to enjoy the support and confidence of those whom it is their privilege to serve.

OBLIGATIONS TO THE PATIENT AND THE PUBLIC

A. If and when a member of this Association is employed, the services rendered to the public and patient shall be in association with a duly qualified and licensed dentist.

B. The dental hygienist's primary duty of serving the public is discharged by giving the highest type of service of which he is capable.

C. The right of a dental hygienist to professional status rests in the knowledge, skill and experience with which he serves his patients and society. Every dental hygienist has the obligation to keep his knowledge current and skills freshened by continuing education throughout his professional life.

D. The dental hygienist has an obligation to inform and educate patients within his scope of service. In service to the patient, he has a responsibility to advance dental health education and preventive measures for the patient and public.

E. The dental hygienist has an obligation of referring for consultation and diagnosis to the dentist with whom he is associated, all patients whose welfare should be safeguarded or advanced by having recourse to those who have special skills, knowledge and experience.

F. The dental hygienist has an obligation to honour all confidences that may be learned in rendering service to the patient.

G. The direct charging of fees for service by the dental hygienist is to be condemned.

H. The dental hygienist has an obligation to protect the health of his patients by not taking upon himself any service or operation which requires the professional competence of a dentist.

OBLIGATIONS TO THE DENTAL HYGIENE PROFESSION AT LARGE

A. The dental hygienist has an obligation of not referring disparagingly to the services of another dental hygienist or dentist in the presence of a patient.

B. The dental hygienist has the obligation of advancing his reputation for fidelity, judgement and skill solely through his professional service to the patient and to society. The use of advertising, in any form, to solicit patients is inconsistent with this obligation.

C. The name of a dental hygienist should appear on professional cards, announcement cards or letterheads only as an adjunct to that of his supervisor.

D. The name of a dental hygienist should appear on the office door lettering and signs only as an adjunct to that of his supervisor.

E. The dental hygienist does not permit the listing of his name in directories other than professional directories.

OBLIGATIONS TO THE PROFESSION AND SOCIETY

A. The dental hygienist has an obligation to maintain the honour and integrity of the profession and so conduct himself in all things as to bring credit to himself, colleagues and the profession.

B. The dental hygienist has a responsiblity to society as well as to the individual. The dental hygienist should provide freely of his skills, knowledge and experience to society in those fields in which his qualifications entitle him to speak with professional competence. The dental hygienist should be active in and available to his community, especially in all efforts leading to the improvement of dental health of the public.

C. The dental hygienist should support to the best of his ability, the profession of dental hygiene and its advancements through the professional organization.

Adopted by Canadian Dental Hygienists' Association, May 14, 1967.

Amended July 8, 1969.
Amended June 7, 1972.

WATER FLUORIDATION — A BASIC PUBLIC HEALTH MEASURE

At a time when Canadians are becoming increasingly aware of the need for more effective dental health education, we must not lose sight of a basic public health measure to combat tooth decay — that of water fluoridation. Recently, the City of Toronto released the report *An Evaluation of the Dental Effects of Water Fluoridation, City of Toronto, 1963 - 1975*. The report documents, once again, the superb dental value in fluoridating our public water supplies.

Water fluoridation is effective. The children examined in 1975 who were five, seven and nine years of age had better teeth after fluoridation, implemented in 1963, than children of similar ages before fluoridation. After the full effects of fluoridation, the number of children who had lost or needed extractions of deciduous teeth was decreased by over one-half. Two to three times as many children had experienced no decay at all in these teeth. The number of teeth attacked by decay was reduced by about 50% for deciduous teeth (d.e.f.) and 44% for permanent teeth (D.M.F.). This substantial saving both in terms of teeth and potential dental bills was obtained all for the estimated per capita cost, chemical and labour, of 6.94 cents in 1969 and 10.83 cents in 1975 — mere pennies.

Tooth mottling, whether fluoride-induced or due to other unknown causes, was low in prevalence, averaging less than 5%. When it occurred it was of the mild category which is not considered cosmetically displeasing.

The City of Toronto has documented, as other municipalities across North America have before, that water fluoridation is an effective public health measure which is the most economical method of reducing the incidence of a major dental disease — that of tooth decay. In this age of inflation there is a need to examine carefully programs for costs and benefits. Surely fluoridation is one of the first dental projects on which governments should spend public funds.

The Government of the United Kingdom is so convinced of the value of water fluoridation that it announced recently it will provide approximately $1,000,000 a year to encourage health authorities to put fluoride in water supplies. Dr. Owen, Minister of State, Department of Health and Social Security, was quoted in the Summer 1976 *FDI Newsletter* as saying "This is a case of putting our money where our beliefs are". It would be encouraging if our Canadian Government would follow suit. Dental Health promotional materials and funding are both shamefully lacking at the federal level.

Quebec is the only province in Canada to have taken a firm stand on water fluoridation. A law was passed on June 27, 1975 making it mandatory for public water supplies to be fluoridated. One year was allowed for implementation and the Quebec Government offered to subsidize the costs of purchase and installation of equipment. More than a year has passed and still the city of Montreal is without the benefits of fluoridation and its children are suffering from unnecessary tooth decay. Hopefully, 1977 will be a year of fluoridation gains in Quebec.

Vancouver, a city which prides itself on its forward thinking ideas, is another major Canadian municipality without fluoridation. Quebec City, Calgary, St. Catherines - Niagara, Kitchener and Victoria are all fluoride deficient. Lethbridge and Peterborough are the only major municipalities that have added fluoride since the report *Fluoridation in Canada as of December 31, 1972* went to press. This report was prepared by the Canadian Dental Association (C.D.A.) for the Department of National Health and Welfare. Copies are available from Health & Welfare or Mr. L.H. Bowen, C.D.A. Fluoridation Officer, c/o Ontario Dental Association, 234 St. George Street, Toronto, Ontario, M5R 2P2.

Controlled fluoridation in Canada started in 1945 at Brantford, Ontario. Thirty years later still less than 50% of our population receives its benefits. As of December 31, 1972 only 35.74% of the total population of Canada were receiving fluoridation and only 45.7% of that portion of the population on public waterworks. The statistics speak for themselves. The need for a better informed electorate is self evident.

Pamphlets for the public on water fluoridation are available from the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6.

Sharon B. French
Ottawa, Ontario

VIEWPOINT

NUTRITION AND DENTAL HEALTH

J.E. MONAGLE, M.D.

Dr. Monagle is a physician with special qualifications in Physiological Hygiene and Nutrition, and has been the Department of National Health and Welfare expert in Clinical Nutrition for over fifteen years.

"..... Shin bone connected to the thigh bone. Thigh bone connected to the Back Bone. ..... Back bone connected to the Tooth Bone". (With apologies!)

One of the greatest fallacies of current promotions for nutrition — or at least, the expectations for miracles from nutrition — lies in the failure to recognize that the body is one integrated organism. What is so elementary is blithely ignored — that what is good nutrition to maintain a healthy body is equally good for all of its components. What may seem, superficially at least, to be particularly good nutrition for the tooth, or the heart, may not necessarily be good for the toe. Perhaps because some of the influences of particular foods seems so readily demonstrable for preventive dental care it can be especially tempting to isolate the tooth, the jaw, or even the entire mouth from significant association with the rest of the body.

Fundamentally, when we are looking at the interrelationships between nutrition, foods and dental health, these break down into three basic identifiable spheres: (1) Factors influencing general health, including dental and oral tissues, (2) Factors particularly associated with formation and development of teeth, and (3) Factors influencing the physical environment within the oral cavity.

A further fundamental concept of nutrition, and of health in general — and one must never be so blinded by enthusiasm for a single concept as to lose this perspective — is that the nutritional and health status of any individual is determined or mediated by a complex of inter-related influences; genetic, deviations from normal anatomic or physiologic development, endocrine disorders, physical environment, socio-economic and cultural milieu, and secondary effects of illness and of therapy — to illustrate but a few.

If one seeks a simple, easily expressed rule of thumb, one which is at the same time uncomplicated and covers all of the exigencies above, such is to be found in the carefully developed text of Canada's Food Guide. There are no problems of nutrition and dental health, or of nutrition and general health, which cannot be resolved within the framework of the wide variety of foods encompassed by appropriate selections from the key food groups: milk products, fruits and vegetables, cereal products and meats. If one wishes to assess dietary adequacy, their own or someone else's, or to arrive at decisions on providing or selecting from foods in institutional, school or commercial feeding facilities, they have only to determine how each of the alternative choices fits within the pattern of Canada's Food Guide to give a suitably balanced dietary intake.

Food selection for good nutrition unfortunately does not package into neat little compartments — good/bad, black/white, sinful/saintly. Excess of any food, or of all foods, can be "bad" or even "sinful". Nor is there any food which cannot be totally eliminated from the diet, so long as it is replaced by alternative foods providing the same nutrients.

Presumably, none of the known nutrients can be excluded as not being essential to dental development. Most specifically identified, however, are Calcium, Phosphorus, Protein, Fluorine, and Vitamins A, C and D. Deficiency of any of these can result in malformed teeth, defective tooth structure or poorly developed dental supporting tissues, in turn particularly conducive to poor dental health later in life. Except for Fluorine, all are readily obtained through the foods encompassed by the sketch outline of the Food Guide.

It is in the context of foods and the physical environment within the mouth that dogmatism becomes the most tempting, and where any simple dogmatic statement almost inevitably carries error. The arch-villain is carbohydrates, particularly sugars — and most specifically sucrose. Therefore, sugar in any form at any time must be considered nutritionally bad. Sugar and starches, often in combination with fats, are the principal ingredients of the delicately textured foods which have become increasingly favoured in western cultures during the twentieth century. These soft foods do not give the mechanical cleansing or gum massage effects of chewing more fibrous foods. Many make only a minimal dietary contribution of the key nutrients, but are of high caloric value; hence the appropriate catch phrase

"empty calories". Formulated to capture sensual and psychological appetites extending beyond sensations of hunger and satiation, and concocted into forms to facilitate accessibility and portability, these foods are readily identifiable as a significant portion of dietary patterns associated with problems of weight control. Taken together with the evidence indicating a close association between consumption of sugars and starches and propensity for dental caries and periodontal disorders it becomes an easy transition to totally incriminate all foods in this category.

Carbohydrates are essential for normal metabolism; in fact, if less than 25-30% of the food energy is derived from carbohydrates the body cannot function normally. Moreover, a diet in which less than 50% of calories are derived from carbohydrates becomes extremely costly. Sugars per se may not be essential, but considering the conversion of starch to glucose by salivary amylase is this really as important an issue as we have come to believe? It does appear that sucrose is more cariogenic than other sugars; the determinant seems to be frequency, however, not absolute quantity. Cakes, cookies and candies in the diet, together with good oral hygiene are less predisposing to caries than bread or pastas and poor oral care. With all flours enriched there is really little difference nutritionally between white breads and brown breads. Cakes or cookies made with eggs, milk, nuts, raisins, figs, oatmeal, or other nourishing ingredients may be of significantly better nutritional value than whole grain bread. The mere fact that ice creams, milk shakes, chocolate milks, yoghurts, custards, or milk puddings have sugar and flavouring added does not minimize the nutritional value of the milk; for persons who do not relish milk these alternatives are much preferable to exclusion of milk from the diet. It would be commendable of course if the package carried the label "Brush Well After Using"!

For all races throughout the world, the enjoyment of their food patterns is a deeply ingrained part of their culture. Any modification of diet which requires too marked a departure from tradition is rejected en toto. Promotions which depict as unhealthy food practices on which ancestors have thrived are unbelievable. In the modern vein, health professionals most commonly are seen as censuring all that is enjoyable, nutritionists in particular as bent upon advocacy of eating devoid of enjoyment. Educational programs must be convincing and believable if they are to be effective. Experience or information which is seen to be even partially conflicting with an educational presentation destroys credibility not only for the part but for the whole. Our challenge as health professionals, dental hygienists and nutritionists, is not convincing people not to eat foods which in excess may be less than beneficial, but to convey a message of a commonsense approach to dietary regimens which while contributing to a health-promoting lifestyle equally are psychologically satisfying.

CDHA LAPEL BUTTONS

KEEP YOUR SMILE — KEEP YOUR TEETH

For the first time CDHA is producing a lapel button to promote dental health. It can be used for dental health month or other promotions. The button is a 2¼ inch metal button with a safety clasp at the back. The colours are bright teal blue on white. A profile of a smiling couple is shown in the background with the slogan *Keep Your Smile — Keep Your Teeth* in the foreground. Canadian Dental Hygienists' Association is shown on the back outer rim.

The buttons will be sold in lots of 100 only at $10 per 100 buttons. Multiple lots can be ordered. However, order well before you need the buttons since they will be sent parcel post which takes up to two or more weeks for delivery. Make your cheque payable to the Canadian Dental Hygienists' Association. Do not send cash. Send your order and cheque to CDHA Lapel Buttons, c/o Mrs. Sharon B. French, 13 Hobbs Avenue, Ottawa, Ontario, K2H 6W8.

CDHA LAPEL BUTTONS ORDER FORM
c/o Mrs. Sharon B. French, 13 Hobbs Avenue
Ottawa, Ontario K2H 6W8

Enclosed please find a cheque for $ _____ payable to the Canadian Dental Hygienists' Association for_____lots of 100 buttons at $10 per 100.

Name: DENTAL LIBRARY

Address: 124 EDWARD ST., TORONTO 2

City: _____

Province: _____ Code: _____

DENTAL HEALTH EDUCATION — ONE APPROACH TO EVALUATING ITS EFFECTIVENESS

G.A. COSTANZO, B. Com.
I. GLASGOW, D.D.S.
W.A. WINDRUM, D.D.S., D.D.P.H.
S.J. GALLAGHER, D.D.S., D.D.P.H., F.R.C.D.(C)

Mr. Costanzo is Research Officer for the City of Vancouver Health Department, Dr. Glasgow is Dental Public Health Co-ordinator for the North Unit-Dental Centre, Dr. Windrum is Dental Public Health Co-ordinator for the East and South Dental Centres, and Dr. Gallagher is Director, Dental Health Division for the City of Vancouver.

Abstract

This study attempts to demonstrate the acquisition of knowledge and subsequent change in attitude that would manifest itself in behavioural change following a program in preventive dental education.

A simple, self-administered questionnaire was devised and administered pre-post to groups of elementary and secondary school students. The evaluation of the questionnaire data (which measured change along with several important preventive dental behaviour dimensions — flossing, sweet food consumption, snacking habits, brushing, and professional care) was accomplished through contingency table analysis.

The results indicated that, for each group of students, significant attitude change was apparent, but only on certain dimensions. Altered program emphasis was recommended as a result.

Use of such an evaluation approach in dental health education on a wider scale is suggested.

Introduction

The essence of preventive dentistry is behavioural change — the adoption of practices known to lead to improved oral health status. The process of evaluation measures outcomes against predefined objectives — did we achieve what we set out to accomplish? Evaluating the effectiveness of preventive dental services, then, presupposes the setting of defined objectives and valid outcome measures.

In the past, attempts to evaluate preventive dental programs have centered around the measurement of a change in oral hygiene by means of some accepted index (Greene and Vermillion Oral Hygiene Index, Russell's Periodontal Index, etc.). Podshadley,(1,2) in an effort to develop a simpler index of oral hygiene, formulated the 'PHP' or Patient Hygiene Performance method which was later further tested by Ramirez, Lasater, Bethart, and McNeal(3) for validity. They found the interrater reliability good, and therefore concluded that the PHP index would be a valid indicator of changing behaviour where toothbrushing was the variable under study. Recent approaches using the same evaluative technique(4,5,6) could not demonstrate the effectiveness of a program of dental health education.

There is difficulty in producing any sort of behavioural change in the short term and, because of the difficulty of following a cohort of school children over any extended period of time, no attempts have been made to show the success of a school preventive program in the long term. Some effectiveness, however, must be shown in order to maintain the credibility of preventive dental health education and the push is on to achieve this.(7)

Education consists of more than behavioural change (which, in this instance, is the sole desired outcome). The cycle of educating begins with the presentation of information which is hopefully retained by the subject and leads to a change in attitude on the part of the subject. It is only with this prior change in attitude that behavioural change can take place.

Stolpe, Mecklenburg, and Lathrop(8) examined the question from this viewpoint and reviewed a number of studies that indicated the effectiveness of health education for improving oral health is inconclusive. Using the OHI-S (Greene and Vermillion Simplified) and a written examination at the beginning and end of one school year, and the beginning of the next school year, the investigators found that the material presented was retained by the subjects and thus that the level of knowledge of oral health can be improved, but that attitudes about oral hygiene and hence the practice of oral health principles are changed very little (and this improvement is not retained).

Jordan and Pugnier(9) devised a test which would hopefully correlate changes in behaviour with a change in knowledge. The test consisted of three sections:

1. Designed to measure knowledge of good oral hygiene — toothbrushing, preventive measures, control of diet, dental growth and development,
2. Designed to reflect the subject's own oral hygiene practice, and
3. To show knowledge of dental structures and supporting tissues.

It was surmised that the increase in knowledge (uncovered by the pre-post administration of the questionnaire) did have some effect on behaviour. The behavioural change, however, was less in the area of the subject's daily habits — consuming non-sweet snacks, brushing after eating etc., than in those areas that are less routine for the subject, such as visiting the dentist twice annually. The suggestion that the private practice of dentistry adopt increasing responsibility for preventive dental education was made.

Love(10) utilized a questionnaire reflecting both knowledge and behaviour in the second, fifth, ninth and eleventh grades and compared the results with the scores of senior dental students at the University of Michigan. It was hypothesized that the level of health knowledge was equal to the level of health behaviour. It was then found that, knowledge of oral health was substandard in the school system but improved progressively as the children advanced and that the knowledge of oral health was on a level with the practice of oral health only in specific instances (such as subjects who also visited their dentists regularly).

Bagramian and Gochman(11) and Chambers and Allen(12) used similar questionnaires and related the results to socio-economic status. Their results indicated that older and poor inner city students had poorer preventive dental behaviour than their younger and wealthier counterparts in the suburbs.

From the material reviewed it can be seen that there have been basically three approaches to the evaluation of dental health education:

1. Pre-post examination using a standard oral hygiene index.
2. Pre-post examination using a standard OHI and a questionnaire reflecting the subject's personal oral hygiene knowledge and/or attitude.
3. Pre-post examination using solely a questionnaire reflecting the subject's personal oral hygiene knowledge and/or attitudes.

Each of these approaches uses one or more outcome measures to show change in one or more aspects of the educational cycle (knowledge/attitude/behaviour). Clearly, the success of any evaluative effort in this area rests on the applicability of defined objectives to the program at hand and the appropriate utilization of a suitable outcome measure. (Is it reasonable, for example, to assume a *behavioural* change will occur after a short and superficial exposure to preventive dental education, or should one lower his expectations and define the objective as solely a change in the level of *knowledge*?) Choice of the reasonable objective will then determine the appropriateness of the evaluative technique to be employed.

The Dental Health Education Program in Vancouver and Purpose of this Study

The program of instruction in oral hygiene was delivered by a certified dental assistant and a public health dentist to secondary students, and by a certified dental assistant alone to elementary school students.

The presentations consisted of two class periods for elementary school students and one class period for secondary school students and included slide and film presentations on the theory of preventive dentistry after which the student gained practical experience by disclosing his teeth and actually flossing and brushing his teeth.

The purpose of the study was to examine the impact of the program of theoretical and practical instruction in changing the knowledge and attitude of the subjects to their personal oral hygiene with the expectation that useful behavioural change would follow. The program's resources being somewhat limited, the achievement of the objective of behavioural change was deemed beyond the capability of the evaluation. Information as to what areas of preventive dentistry mentioned in the presentation had the greatest impact was sought in order that the program format might be altered to stress those aspects which had less influence on the subjects.

To this end, a questionnaire was devised (Figure 1) to depict the behaviour of subjects in the following five areas: flossing, sweet food consumption, snacking habits, brushing, and professional care. It was recognized that a significant change in the distribution of responses in any one area would not necessarily imply a change in behaviour as a statement that 'best describes' a student might reflect only how a student *perceives* he should be 'best described' i.e. reflecting a changing knowledge/attitude and not necessarily a changing behaviour.

The questionnaire was administered to over 300 students in grades seven and ten. The responses were matched in equal numbers between the pre and post tests for ease of comparison by randomly discarding the surplus, (absenteeism and class changes accounted for the difference in pre-post sample size) leaving a final sample of 300. The pre-test questionnaire was administered just prior to the presentation of the program and the post-test some six months later using the same questionnaire.

FIGURE 1

MY DENTAL HEALTH

Mark an "X" beside the statement that best describes you:

_____ I floss my teeth every day.
_____ I floss my teeth more than 3 times a week, but not daily.
_____ I floss my teeth occasionally.
_____ I don't floss my teeth.

_____ I eat sweet foods whenever I feel like it.
_____ I sometimes eat sweet foods between meals.
_____ I limit my eating of sweet foods to mealtimes.
_____ I rarely eat sweet foods.

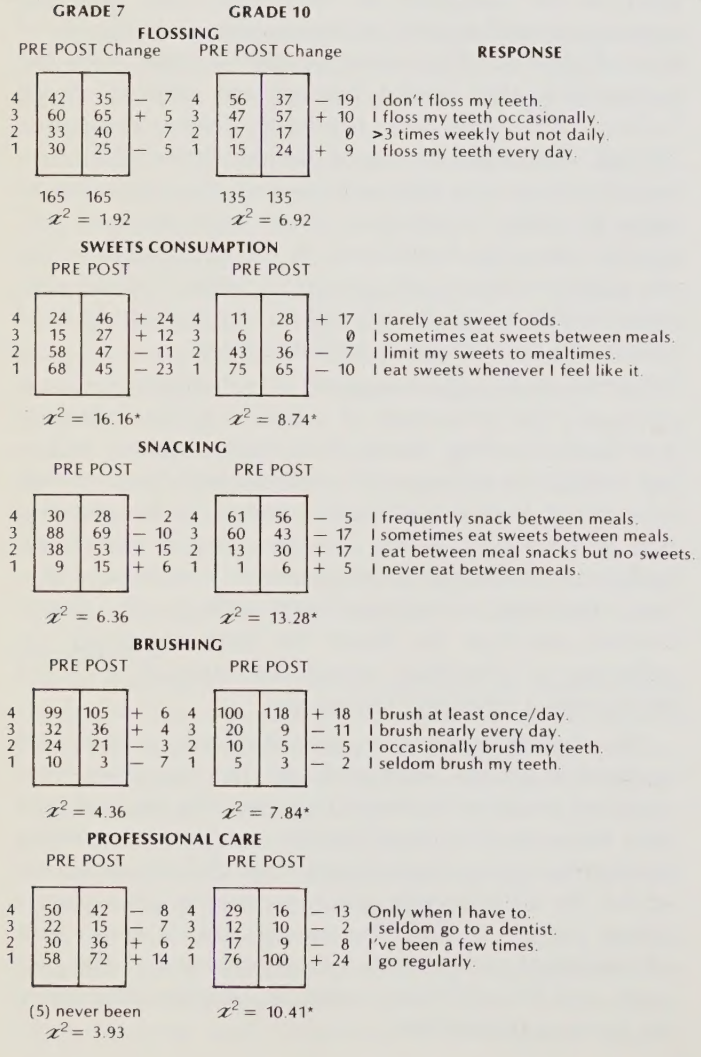
_____ I never eat between meals.
_____ I eat between meal snacks, but not sweets.
_____ I sometimes eat sweets between meals.
_____ I frequently snack between meals.

_____ I seldom brush my teeth.
_____ I occasionally brush my teeth.
_____ I brush my teeth nearly every day.
_____ I brush my teeth at least once a day.

_____ I regularly have my mouth examined in a dental office.
_____ I've been to see the dentist a few times.
_____ I seldom go to the dentist.
_____ I only go to the dentist when I really have to.

_____ How old are you?

FIGURE 2



Results

The responses were computer tabulated and analyzed by contingency table analysis. The chi-squared distribution was used to test for significant differences at $p = .05$ between the pre and post test distribution of results (Figure 2).

It can be seen that, (a) in the Grade 7 group only the distribution of responses in the sweets consumption area was significant and (b) in the Grade 10 group only the distribution of flossing results was *not* significant indicating that there were demonstrated changes in attitude (presumably as a result of the program) and that these occurred in specific topical areas.

Discussion

From the above results, it can be seen that a change in knowledge and attitude had been demonstrated but in specific areas of the program's total content. Altered emphasis is therefore indicated on those areas of the program that do not seem to have had an impact.

The study was able to evaluate the program as being successful, given the program objective as stated previously, and hence the tool, simple though it was to administer, has proven useful both as an evaluative measure and as an aid in future program planning. Use of such an approach in dental health education is therefore suggested on a much wider scale.

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